

# THE AMERICAN FARMER

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**ELLERSLIE**, the home of ex-Vice-President Levi P. Morton, near Rhinebeck, N. Y., suffered a severe loss by fire on Aug. 1, the damage done amounting in the vicinity of \$200,000.

The large barn, fitted with modern improvements, built at a cost of \$50,000, was entirely destroyed, the flames spreading to the poultry houses which sheltered 6,000 chickens, devouring that place and killing all but a few fowls. At the time of the fire the barn contained about 100 head of the finest Guernsey cattle, nine horses, and 200 tons of hay, all of which were entirely consumed.

The origin of the fire was undoubtedly that of an incendiary, but whether the perpetrator will be caught or not is left with the future. By the hardest of work the engine house and the dairy and farmhouse were saved, though very badly scorched. There was no watchmen employed at the barn, which was securely locked every night, so that the flames had secured a great headway before being discovered.

The barn was believed to be the most costly and complete ever built in the United States. The main building was 297 feet long by 65 feet in width and 50 feet in height, with an L. 89 x 52 feet. The structure included, besides three 500-ton silos, each 47 feet in depth, tool and engine rooms, grain bins, laboratory, bathing-room, and ample hallways, no less than 120 ordinary stalls and 46 box stalls on the main floor. An equal number was placed in the basement.

The bays above the stalls could accommodate 400 tons of hay, without covering over the middle hallway. The south door, looking up through the center of the building, was much larger than would be necessary to admit a freight train, and the cars and engine would have more than ample room inside, the passage being nearly 16 feet wide and 39 feet high in the clear. The barn, which was so arranged that it could be doubled in length, would accommodate 360 head of stock, or 400 with crowding, and also house all the hay, grain, and ensilage needed for this regiment of cows. The grain bin alone held 20 carloads, while three silos held 500 tons each.

Fastened above to the walls in front and back of the rows of cows were steel tracks on which ran hanging cars. That back of the cows was for a manure car. The manure was thrown into this from the trench and rolled out to the rear, where it was dumped into a wagon or sled and hauled at once to the field. The saving under this system as compared with the old plan of throwing the manure out through a hole in the wall back of each cow is apparent. The tracks in front of the cows carried cars from the silos and grain bins.

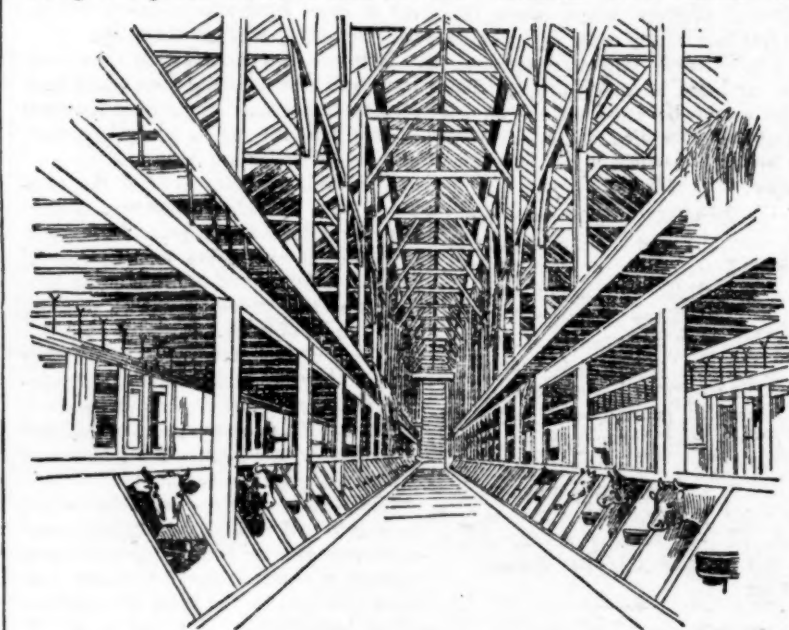
The cows had not been turned loose since Oct. 15 last. There was not a sick animal in the herd; they never got a chance to hook each other; they lost no milk by being exposed to storms, and no feed was wasted to supply force for exercise. All the cows did was to eat, drink, sleep, and give rich milk. Many people claim this is unnatural. It is, and so is the giving of so much rich milk. The modern dairy cow is an

artificial machine and requires artificial care and treatment to produce the highest yield. With the so-called natural treatment she would utterly fail to make the profit that makes her so much more valuable to her owner than the scrub.

The barn was furnished with the Buckley watering device—every cow having a small bucket of water in her manger. Whenever she took a drink a fresh supply of water flowed in. There was scarcely a moment from 4 o'clock in the morning until midnight that some animal was not drinking. The cattle never gorged themselves with water, but took a little and often and had the water just when they wanted it. The water was carried in pipes through the barn to each stall, and in this way was warmed without expense to just the right temperature.

It was determined here that cows give the best flavored butter soon after calving. Milk from cows that have been giving milk for a long time never yields the best flavored butter. Cows were bred so that calves were born every week in the year. The bulk of milk came then at all times from fresh cows and gave rich, delicate-flavored butter.

The ration for each cow per day was five pounds bran, four pounds cornmeal, and one-half pound each cottonseed and linseed meals, 25 pounds corn ensilage and seven pounds hay. Corn ensilage was the chief rough feed. The Superintendent of the place said: "Our silos hold 1,500 tons. Last year, in March, our ensilage gave out. At the time we were making one pound butter to each 16



INTERIOR OF THE BARN.

pounds milk. We had to substitute hay, and it then took nearly 20 pounds of milk to make a pound of butter, and the cows dropped off nearly 10 per cent. in yield of milk. We can raise enough ensilage on an acre to feed during the winter three to five cows, and it takes two acres of the same land to produce enough hay for one cow. At the same time the milk and butter made from cows fed ensilage is better flavored than when hay is fed."

The record of the 62 cows and heifers for last season's work was recently compiled. It is an interesting exhibit. The average yield was 6,119½ pounds of

milk in a year, the highest being Passageris, 10,816 pounds. Eight cows produced over 8,000 pounds, 15 over 7,000 pounds, 33 over 6,000 pounds. The yearly average of butter is one pound from a little less than 17 pounds of the mixed milk of the whole herd. The cows were never forced, but were given what grain they were able profitably to turn into butter. A composite sample of the mixed milk of the whole herd for eight milkings, analyzed by Prof. Cooke, of the Vermont Experiment Station, showed 5.37 per cent. fat, 3.06 per cent. casein, and 15.18 per cent. total solids.

The individual record of the leading cows was as follows: Good morning, 3,674 pounds; she is a nearly solid fawn, imported Nov. 16, 1887, and has a record of 8,295 pounds of milk in one year, and 1,071 pounds in a month. Rosette, 8,101 pounds in 351 days; Olga, 775 pounds in one month; Margo, 6,097 pounds in eight months; Lady Antoinette 2d, 830 pounds in one month; Bretonne, 5,701 pounds in seven months; Chamoinesse, 5,532½ pounds in nine months; Rosaline, 5,716 pounds in nine months; and May blossom, 5,780 pounds in eight months.

The poultry department consisted of a group of buildings from which were sent to market each week about 500 artificially-incubated chickens; that is, between 20,000 and 25,000 a year. Ten incubators were kept in constant use, and all the desirable eggs that could be bought in the neighborhood were consigned to the developing care of these incubators. Half the eggs put in hatch out alive. Three-fourths of the chicks went safely through the brooders, and were sold as broilers at eight to 14 weeks from hatching, weighing when ready for market about one and a half pounds. The brooding arrangement was very simple. It consisted merely of a pen 5 x 15 feet, across which, near one end, ran four inch-and-a-half hot-water pipes covered with a board and screened on each side by a flannel curtain. Forty-eight of these pens were arranged in an L-shaped building, 168 feet long one way and 108 feet the other; and as each pen accommodated 100 voracious little chicks—which

Their antecedents can be traced to the Gray Shanghaies, which were large-bodied, long-necked, and of great size. Many cocks have been known to reach the incredible weight of 17 pounds. This is, of course, in excess of the standard weight of the breed, yet many have been exhibited which weighed from 12 to 15 pounds. The standard weights being: Cock, 12 pounds; cockerel, 10 pounds; hen, nine and a half pounds, and pullet eight pounds. It has been urged frequently to reduce the weight of cocks two pounds, which would bring them close to the standard of the Plymouth Rock. This reduction in weight would undoubtedly enhance the value of the breed, as it would mean a quicker maturity, and this means earlier returns on capital and labor invested in producing the bird.

There has been no change in shape and color since 1869; the standard has been the same, and all deviations from this have been caused by neglect or individual speculations of the breeder. Every breed has its own individual type, and the Brahma is more than characteristic in this regard, and is peculiarly different from any other breed.

Mr. Seely, the head of this department, is a man of decided views, and these are not always in accord with those of other poultrymen. In a chat some time before the fire he said: "We feed generously and in great variety, such as corn meal, bran, middlings, cottonseed meal, cracked corn, cracked wheat, oat meal, ground meat and bones, and cabbage. All our feed is of the best quality that we can get, and such as anyone would use on his own table. We believe it is the feed and not the breed that makes the flavor of the meat. As proof of this our broilers are all scrub stock, and yet experts have pronounced them equal to partridges in flavor. In preparing for market all our chicks are dry picked and then put into cold water until thoroughly cooled before shipping, and in warm weather we put ice in the package to keep them cool."

"I might add that I use a great deal of skim milk; they have it to drink all of the time. I get it within an hour after it is milked, and while yet warm. The chicks are very fond of it, and I think it will pay better than to feed it to pigs, which bring six or seven cents per pound, while chicks bring 25 cents to 40 cents. I use a little plaster on and under the brooders; it makes them smell sweet. I also use considerable hayseed and chaff in the pens, as it keeps the chickens busy; besides they eat leaves and seed, which does them no harm."



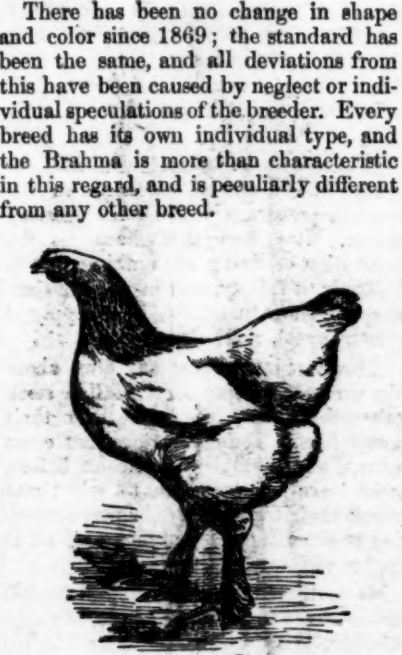
By GEORGE E. HOWARD.

**O FOWL** is more popular today than the Brahma. Its popularity dates back to the early ages of poultry raising, and amidst all the influences that have prevailed for other breeds, the admirers of the Brahma have been the most enthusiastic. Its many qualities of excellence, its fine appearance, and the profit derived from them, have caused them to be termed the ideal and "all-purpose" fowl.



LIGHT BRAHMA COCKEREL. The standard of 23 years ago. From Tegetmeier's Poultry Book.

Never sacrifice shape for color only in the female, as it is impossible to expect a perfect shape from a poorly shaped sire. A sacrifice of color for shape should only be resorted to to restore shape to the females. The science of breeding comes from mating colors that vary from standard requirements; to preserve a uniform color in mating is a study with charms, and all aims should be exerted in the careful mating and avoidance of the extreme. The perfect color in the male should be a white neck, plumage striped with intense black, with a metallic luster for two-thirds of the length, and covering three-fifths of the surface of the web. The balance of the feather, being the under color, may be black or black and white, resulting in white at the quill end in the upper part of neck. The surface color of the back should be white; the covered part of the web and the fluff a bluish-gray. In the wings the primaries should be black or black and white, although a fine specimen should have fully four-fifths black. The secondaries should be two-thirds white in the lower web, the shafts and a large proportion of the upper web should be black. The upper edge of the secondaries should be laced with white, the latter increasing in width as the feathers comb upward. The tail proper, viewed from the rear, is black, with the curly feathers underneath black and white, shading into white as they near the fluff. The upper side of the tail should be black till you reach the quill end, which is white, the white extending up the lower web from one to one and a half inches. The sickles, lesser sickles, side hangers, and first set of coverts should be black, the large coverts (either one or two sets of them) black, laced with white, except the white at the extreme



LIGHT BRAHMA PULLET 25 YEARS AGO.

The ideal birds shown in cuts portrays the typical Brahma, and clearly defines the points of excellence in the fowl. The average well-bred Brahma is in height 26 inches; back from ground, 16 inches; keel from ground, eight inches; height of tail, a trifle over 21 inches; length of body, front of breast to rear of fluff, 14 inches; saddle hangers to rear of fluff, two and a quarter inches; eye from tip of beak, two and one-sixth inches; length of head and beak, three and one-half inches; breast to rear of a drop line from point of beak, three-fourths to one and one-fourth inches. As specimens depart from this proportion they will become awkward and valueless as exhibition stock and often also as egg producers. The light Brahma male is smooth in plumage of thighs, with close turned hock and properly feathered shanks and toes. Each lesser sickle reach just eye

with and completely hide the tail proper. The slight concave line from point of keel bone to the front of thighs, and the downward slope just in front of hip joints, where the saddle commences and carries the concave line to the tail, are important features of the breed. Since the first adoption of the standard there has been no deviation from the broad skull, overhanging brows, short, well-arched beak and proper arch of hock and slope of back; these are well defined, and are prominent features of the breed.

The oblong shape and full breast, broad and round, and carried forward, comes from the oval sweep from throat to point of keel. This fulness and prominence gives the length of body, which is characteristic of prolific birds. The light Brahma pullet shown in cut is in full muscle development and void of fat, which mated to the well-bred stock will secure the best of results in shape and color. The Brahma, with its almost equal breast and posterior weight, gives us an egg with a slight difference in the two ends, and their curved lines of neck, back, and breast are fine *fas similes* of the outlines of their eggs. If an egg was large enough it would fit the back of a perfect Brahma male.

The Brahma hen has a broad, oval skull, heavy eyebrows, a full throat, a heavy, well-arched beak, the comb being smaller than the cock's. Their eyes are in color from pearl to red, and are masculine in appearance, which indicates great control and power. Prime shape of males and females are indications of good breeds, and is encouraging for winners.



THE FELCH IDEAL BRAHMA COCK.

Thus we have a perfect Brahma and one which brings joy to the breeder and admiration from all who may see them. Their noble bearing and fine appearance always calls forth delight from the most conservative person. No one can see a flock of Brahmas without this pleasure, and from egg to maturity its satisfaction to the breeder is well merited. To the farmer it is just the fowl he needs to be profitable, both for eggs and broilers. The breeder recognizes its worth and holds it as the favorite bird in their yards, while the fancier is fascinated with its supremacy over its kindred. All

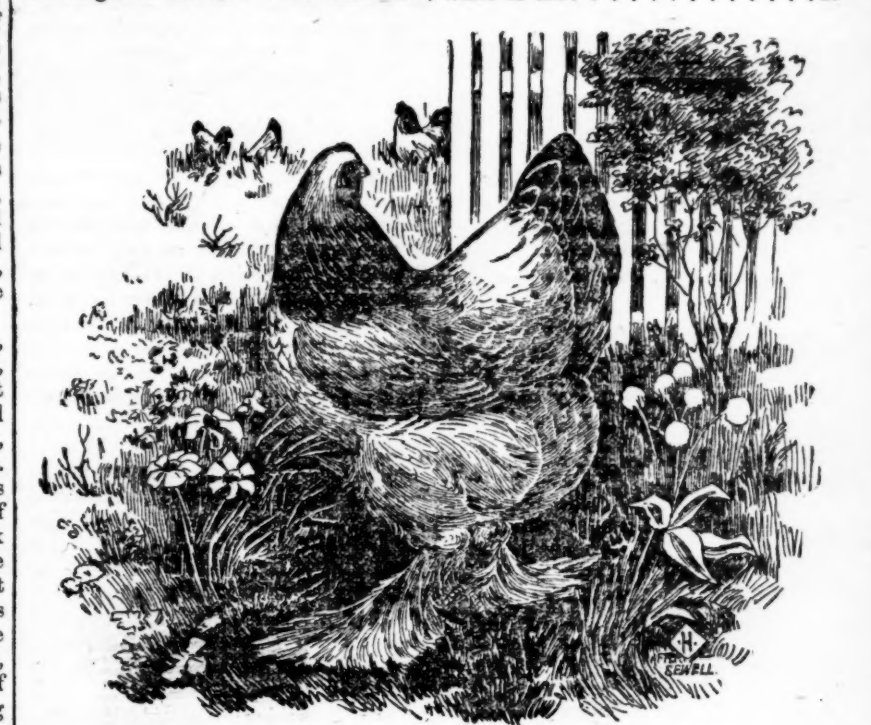
quill end, which is normal to every feather on a Brahma.

The fluff should have the bluish-gray tinge in the under color, with outer extremities white; shank feathers white, with black mottling near the feet.

The pullet head is white, neck plumage a black feather laced with white, the lace narrower at the point, which gives the black center a more pointed form than that of the outline of the feather. The fluffy or quill end of the feather may fade to a white if the black retains a solid, metallic luster two-thirds the length of the web. The black will

**STANDARD OF PERFECTION.**  
A bird ideally perfect in shape, size, color, head, and comb, cushion, or saddle, leg, feathers, tail, etc., and in perfect health and condition, to count in points 100.  
If of extraordinary size, add on that account 5.

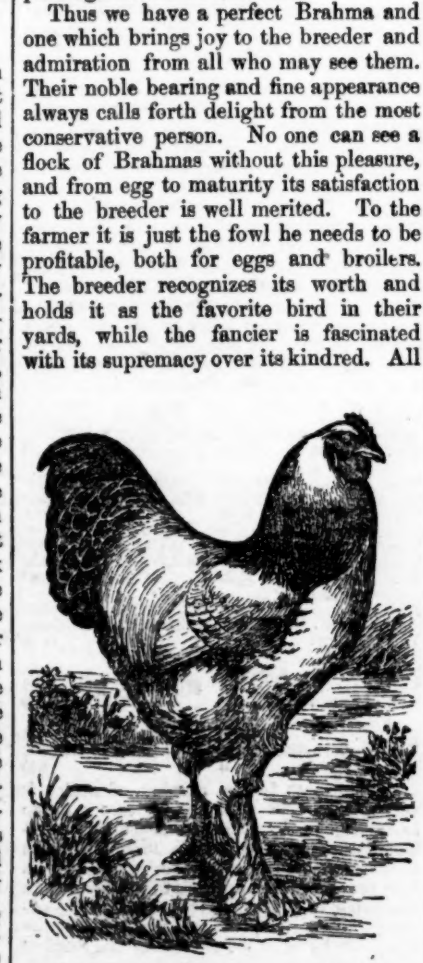
**DEFECTS TO BE DEDUCTED.**  
Bad heads and comb (comb to count 7 in cocks and 5 in hens) . . . . . 12  
Scanty hackles . . . . . 5  
Want of cushion . . . . . 7  
Want of fluff . . . . . 6  
Want of leg feather . . . . . 15  
Vulture hocks . . . . . 5  
Bad shape or carriage of tail . . . . . 6  
White in tail . . . . . 10



LIGHT BRAHMA HEN, "WONDER." This famous hen of Mr. Sewell's possessed root-feathering more abundant and larger than is been known, measuring in length five and one-half inches. She had a grand body, fine head, and stylish coloring, and her hock feathers were as soft as any ordinarily feathered bird.

appear to cover also two-thirds of the surface of the web. The cape should be black and white, but completely covered by the hackle when the bird stands with uplifted head. A wholly white web should not be judged defective, but females with white capes seldom give a large percentage of prime males. Back should be pure white in surface color, bluish-gray in the under fluff. The entire feathering of the back may be white and the bird be perfect as a breeder. Breast, pure white throughout; wings, primaries, three-quarters black, with black quills, the white of a clear shade. Secondaries, lower two-thirds of lower web white, shaft with lower two-thirds of upper web black, the upper edge and about the point white, this lacing growing wider, the top feathers being entirely white. Tail, viewed from under side, black; the upper side black, except the two deck feathers, which are laced with white. The extreme quill end and up the lower web in a normal condition is white, the white extending up one-half to one and a half inches. Tail coverts black, laced with white lesser coverts. The fluff is white; shanks and foot feathering white; but black, mottled plumage should not be cut.

Thus we have a perfect Brahma and one which brings joy to the breeder and admiration from all who may see them. Their noble bearing and fine appearance always calls forth delight from the most conservative person. No one can see a flock of Brahmas without this pleasure, and from egg to maturity its satisfaction to the breeder is well merited. To the farmer it is just the fowl he needs to be profitable, both for eggs and broilers. The breeder recognizes its worth and holds it as the favorite bird in their yards, while the fancier is fascinated with its supremacy over its kindred. All



LIGHT BRAHMA COCK. Bred and owned by Chas. M. Griffing & Son, New York.

unite in saying that the light Brahma of to-day is a perfect bird, and its popularity is never fading.

The following points are for judging and scoring the Light Brahma:

Primaries out of order . . . . . 15  
Pale legs . . . . . 8  
Curved toes . . . . . 10  
Stain of white in ear ear . . . . . 5  
Splashed or streaky breasts in dark or black specks in light . . . . . 15  
Shank feathers (in dark hens) not pencilled as the body . . . . . 4  
Other faults of color . . . . . 10  
Want of size . . . . . 20  
Want of general symmetry . . . . . 15  
Want of condition . . . . . 12  
Want of condition (if total) . . . . . 35

**DISQUALIFICATIONS.**  
Birds not tolerably matched. Primary feathers twisted on their axes. Utter absence of leg feather. Pinky legs. Large, red or



THE FELCH IDEAL BRAHMA PULLET.

white splashes in dark birds or conspicuous black spots in light. Round or crooked backs, wry tails, crooked bills, knock knees, or any other bodily deformity. Any fraudulent dyeing, dressing, or trimming.

**Room for Homesteaders.**

An examination of the records of the Land Office at Guthrie, Okla., shows that there are 1,500,000 acres of land in the Cheyenne and Arapahoe reservations in the western part of Oklahoma Territory subject to homestead entry and which has never been filed upon. This is nearly all first-class agricultural land, well watered and partly timbered and can be had for \$1.50 per acre. In Beaver County, generally known as No Man's Land, there are also over 2,000,000 acres subject to homestead entry. This County adjoins the Cherokee Strip on the west, and much of the land is better watered and more fertile than a large portion of the Strip. These 2,000,000 acres are absolutely free to the homesteader, the last and only free land in the Southwest. All a man has to do is to settle upon them and live there, and why so many should overlook these free lands and wait for the Cherokee Strip, where they must pay from \$1 to \$2.50 per acre for the same quality of land and fight for it besides, is a mystery.

Educate the boys toward the farm and not away from it. It is too often the rule to tell the bright, sprightly boy that he must go to town as soon as he is big enough and be a man among men; to teach them that the farm is a dullard's place. Parents do this and later on complain that their sons will not live on the farm.



MR. MORTON'S HOME, FROM THE LAKE.





## Yard Echoes.

See that the hay stacks in the meadow are well secured before the stock is turned in.

Fairly strong walnut water is recommended as an excellent wash for horses troubled with insect pests.

The best animals for the farmer are those which keep in a good and thrifty condition with very little difficulty.

Do not feed the horses on an exclusively rough ration at this time of the year, but give a supply of grain feed.

A kind master is one who has the horse's good will, and such a man can get more work out of them than one who treats them harshly.

At this time of the year extra teams are in demand for farm work. It is poor policy to buy them if you cannot keep them in good condition.

It does not hurt the horse now if he is allowed to work without shoes. Unless there is an abundance of rocks, it is not necessary to have them shod.

If horsemen would give a teaspoonful of saltpeter in a pail of water twice a week they would find a great improvement in the appearance of their horses.

The appearance of an animal goes a great way in the market, and a smooth, sleek, and fat steer sells more readily and at a better price than one equally as fat, but rough looking. This is a point for consideration.

If animals do not respond to a fattening food, something is wrong either with the animals or the food. If you cannot ascertain the cause, it is a loss to continue to try to make an increase in weight, and the best scheme would be to dispose of them.

## DOMESTIC ANIMALS.

## Rules Governing Their Breeding and Management.

BY T. CLARK ATKINSON, PH. D.

As far back as any recorded history is given man and the lower animals have been associated and more or less dependent upon each other. The science of geology has demonstrated that many years anterior to the most ancient records men and the other mammals were joint inhabitants of the earth. Those learned in fossiliferous lore have demonstrated many things which seem satisfactory to them and sustain their own preconceived theories with these speculative theories. This practical age has but little to do, nor would we, if we could, throw doubt upon what seems to give the modern geologist so much satisfaction.

Everywhere down the ages of recorded history we find man making use of the other animals as food or beasts of burden, and in one particular at least the scientist and revelation agree, viz., that the animals were created before man. Genesis, 1:25: "And God made the beasts of the earth after his kind, and cattle after their kind, and everything that creepeth upon the earth after his kind; and God saw that it was good." Then follows the account of the creation of man: "And God blessed them, and God said unto them: 'Be fruitful and multiply and replenish the earth, and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.'" Thus from the very dawn of creation man has been intimately associated with the other animals, and he starts out with a commission from his Creator to domesticate and make use of them, and throughout the 6,000 years since creation's dawn they have been so dependent upon each other that they can hardly be separated.

When the flood came upon the face of earth Noah built the Ark that saved the animals from destruction, as they went into it two by two. All nations have had their war horses and beasts of burden. The Israelites had their great sheep-shearing season, and Abraham and Lot grazed their flocks and herds by thousands on the plains of Sodom and Gomorrah. The dog has been man's friend as well as servant, and all through the pages of literature, both ancient and modern, we find records of domestic animals, and the poets sing their praises. And as man has advanced in civilization and intellectual development, we find a corresponding development and improvement of the domestic animals which he is so intimately associated.

In the time of the great naturalist, Louis Agassiz, he believed that each species of animal was the product of direct, creative action; but Mr. Darwin and other authorities have established that the development of new species is, to a great extent, due to circumstances; to the actions of inorganic conditions upon them or the interaction of species with species in the struggle for existence.

Mr. N. S. Shaler, in discussing this phase of the question with reference to the climatic and geographical changes that have taken place upon the surface of the earth, says "they will struggle with one another for the possession of the new field. The weaker or less perfect

forms will be destroyed, and out of the struggle will come a measure of advance in the character of the new life."

From year to year many changes are constantly taking place throughout the animal kingdom, and "the evolution of life from the lower to higher planes depends in part, at least, on the differentiation of organic species by the survival of the fittest. \* \* \* The species are contending against each other to determine which is the fittest to survive," and every species is made to profit by its enemies as well as its friends, as in the struggle for life it is the strongest that survives for the reproduction of its kind, while the weakest have perished.

The characteristic and environments which surround the "cradle of the race" have much to do with the development of the species. It is a somewhat remarkable fact that among the numerous variety of birds and animals found wild in America by the first settlers, this country has contributed but one specimen to our domestic fowls or animals, and that one the wild turkey, which is the basis of our domesticated turkeys.

The barnyard creatures of Europe, with their established qualities, may be brought to America and here retain their native form for many generations, and any change in form or characteristics takes place very slowly, and may improve or decline as the well known principles of reproduction may be conformed to by the intelligent breeder or neglected entirely, as is by far too often the case, by the ignorant or careless breeder or farmer.

The doctors disagree as to the causes of the great improvement made in our domestic animals within the last few years. E. W. Stewart, in his "Feeding Animals," makes this statement: "As all farmers, from time immemorial, have been in the habit of feeding more or less animals, it has been taken for granted that this knowledge came by instinct, and required no study to obtain. When a superior animal was produced an explanation was always sought in the breed—it was always charged to the blood."

"When anything is now said concerning the management of those famous breeders who developed the Longhorns and the Shorthorns from the inferior animals—they began with their skill and genius in selecting the points to be improved and the animals to be coupled, representing these in greatest perfection—it is always dwelt upon with the highest admiration. Little else is mentioned. They forget the grand requisite of success, without which these celebrated breeders would have been little distinguished above their neighboring farmers, and that is, feeding." Mr. Stewart is a feeding doctor, and a most excellent one, while other authorities, which we shall quote from time to time, are breeding doctors, and frequently they disagree, as do other doctors. In these papers we shall endeavor to demonstrate that "blood will tell," and that "Durham cattle require Durham keeping," and that success can only come from good management.

The business of stock raising in the United States has grown to vast proportions, fully keeping pace with our rapidly increasing population. "Farmers, during the last decade, have given much greater attention to the economical question of stock raising, not only as a source of present profit, but as a means of perpetual fertility to the soil." To give some idea of the magnitude and extent of the animal industry in this country we give the following summary of statistics from the March, '93, issue of the *American Agriculturist*.

The report of the Statistician of the United States Department of Agriculture, upon comparative numbers and values of farm animals, based on returns of January, 1893, shows an increase of horses, mules, and sheep, no material change in the number of milch cows, a decrease in oxen and other cattle, and a very heavy reduction in the number of swine. The estimate of numbers is very probably closer to the actual facts than for 10 years, because the census returns of 1890 form an accurate basis of comparison and correction.

The values given are based on the local prices of stock received by farmers at their farm or local depot. These returns for 1893, thus compare with the two preceding years:

The increase in the number of miles is very slight. The present increase in sheep exceeds 2,000,000, a continuation of the movement which commenced in 1889, by which numbers have increased nearly 5,000,000 in four years. In the case of swine, there was a small pig crop last Spring, and the late advance in pork products has caused the slaughtering of some portion of the stock of mature animals. As the average age now attained by these animals is less than a year, there is a liability to extreme fluctuation in numbers, which is possible of no other species. Cows have not increased in number sufficiently to keep pace with the demand for their products from an increasing population; hence the firm state of the butter market.

Average values have declined as to horses and mules, advanced as to cattle of all kinds;

a greater gain appears in the value of sheep, and a very large advance is seen in swine, amounting to 30 per cent., and progressive since the returns were made. The total makes an interesting exhibit of values, showing that the total value of all our farm animals compares as follows:

Pen Notes.

Do not let the young pigs roam with the fattening hogs. The reason is that they lay on too much fat to grow well.

Give the fattening swine all they can possibly eat at each feeding, but do not allow any to remain over.

There is no special advantage in having growing and breeding animals fat. In almost all cases better results will be obtained if they are kept in a thrifty condition.

It is predicted that pork will bring a good price next year. The present financial stringency has caused many farmers to sell off very close, too close, in fact, to stock up again as quickly as was expected. Another reason for the prediction is that many farmers and breeders sold a good many of their stock hogs in order to secure the good prices which have been ruling.

## Too Much Corn to Hogs.

EDITOR AMERICAN FARMER: There is hardly a single farmer with whose system of farming I am familiar but feed too much corn to his stock hogs. Farmers generally complain because they rarely, if ever, get price enough for their hogs at killing time from the buyers, and say it costs so much to fatten them that hog raising is unprofitable. I agree with that class of farmers exactly on this point, for no man can afford to feed corn to a hog from weaning time until it is ready for the butcher, and sell it at current prices, no matter what those prices are; in other words, a hog fed on corn all its life from a weaning time fattened, "eats its head off" twice over, and can never be sold for slaughtering purposes at a profit. I have often been amused at farmer's ideas on this subject. They say, "I had the corn, plenty of it, raised it myself; bred and reared the pigs; therefore, I can afford to keep corn in his pen all the time, and sell him at a fair profit." The folly of such reasoning is too transparently absurd and ridiculous to deserve serious consideration. It certainly requires no argument to refute its fallacy. It is simply foolish, idle talk. Were it not better to sell the corn and pigs, too, before the one destroys the other, and thus save the whole rather than permit the hog to eat really more corn than the price he would be sold for at delivering time would buy? It seems to me that this would be the better and more sensible practice. "Well," you ask, "how can the matter be remedied?" Easy enough, to be sure, and a few thrifty farmers follow the plan out exactly. Feed more grass. These three words contain and explain the entire theory of that practice by which anyone can make hog raising, barring the cholera, as profitable as the raising of any other kind of stock, if not more so, on account of their ready sale in any market every year. When I say feed more grass, I do not mean to advise you to turn your sows and pigs, shoats and stock hogs upon a short crop of any kind of grass or upon an old field in which the noxious weeds and briars luxuriate, or from which the cream of the best and richest herbage has been cropped by your bunch of mules, cattle, or horses, and then expect your hogs to flourish, grow, and fatten for the market, without feeding corn at all. By no means; for hogs kept on such pasture must have corn, and that in ample quantities every day, if you would realize anything from their growth.

The man who has the ground that will bring corn also, as a general thing, has ground that will produce clover or rye, perhaps both, which is far better. The plan adopted by the best hog raisers I ever knew, and the most universally successful in all respects, adopted and implicitly carried out the following rules. He was a small farmer, but his rule will apply equally well to large farmers. He generally sold about 50 head at slaughtering time, besides keeping about 15 to 20 for his own use and to sell to laborers when cured. His plan was to always have about 35 acres each in clover and rye, and when the clover was in full growth he turned in his smaller hogs, and when it was in bloom all of them were put in, where they remained until the rye was ripe enough for them; then he turned all of them on that to eat it down. In this way both the clover and rye re-deeded themselves for years in succession." Before the clover came there was always a good blue grass pasture for them, on which no other stock was ever permitted to roam. These hogs, at the proper time, were always given the gleanings of the wheat and oat fields, and they never had an ear of corn after the middle of April until the 1st or 10th of October. Salt was always kept in their range, to which they had access at all times. By this simple and cheap plan he always had healthy swine, and he was enabled to put them on the market in the best possible condition, and having fattened them on a small quantity of corn he, of course, realized handsome profits. This course of treatment, being kept freed almost entirely from kidney worms, blind staggers, cholera, etc. Water of the purest kind, either from ponds or running streams, they had constant access to. If our farmers who feed corn almost continually, and who complain of the unprofitableness of hog raising, will adopt the plan here in set forth they will have far better success and less grounds of complaint.—A FARMER, Columbiana County, O.

## EDITOR AMERICAN FARMER:

There are lots of sheepmen that are "not in it" when progressive breeds and methods are sought for. They talk progress and look for progress in other men, but do not practice it themselves.

There has been an unusual activity in importing Dorset sheep into this country this season. The importers are all men of high character, and their selections are exceptionally good in every respect. The Australian Government has a law requiring all sheep to be dipped. More than this, they have decided upon a standard dip, and the law is enforced with severe penalties for disregarding it.

Why do not the poverty-stricken, tax-ridden, discouraged Virginia planters sell or give a part of their unproductive holdings to young men who will lead out on new lines of profitable sheep farming?

It is believed there are 534,848,924 sheep in the world; 10,969,784 hogs; 267,424,468 cattle; 59,427,658 horses. It is noticeable that the sheep outnumber hogs, cattle, and horses 11,026,014 head.

The demand for fat sheep is well maintained, and the prices seem undisturbed, save in one instance, by the unprecedentedly large supplies. Chicago took 50,000 sheep last week without flinching, and prices even advanced.

It is found that the finest fleeces grow in the warmest climates as often as otherwise. This is in marked contrast with the old theory that cold is essential to the growth of fine wool, and that warm climates are unsuited to any but the coarsest fleeces.

There is much complaint of sheep doing badly since they were turned to grass. If anyone followed our advice in continuing to feed grain to their sheep for a few weeks until the grass had more quality, we should be glad to hear from them about the welfare of their flocks.

It is quite astonishing how a flock of sheep will keep in condition on the shortest pasturage during the growing season. It is here that sheep get the reputation of living on nothing. It is, however, a fallacy, and a close inspection will show that there is a supply of tender, sweet, rich pasturage.

How few men know anything about the care and management of live stock other than came to them from their forefathers. The generations that come after, like those that have come before, must learn by experience to select and direct their live stock husbandry according to the changed conditions of trade and agriculture.

It is hinted that there are 50,000 sheep in the mountains of Apache County, Ariz., owned by New Mexico parties, that escape the tax collectors of both Territories by being driven from one Territory to the other. This is evidently intended for a joke, since everybody knows the proverbial honesty of sheepmen in general, and of the West in particular.

There is more hope for the young sheep raiser who has his eyes and ears wide open to learn than for the old sheepman who thinks an experience of years entitles him to know all there is to know about the business. The young sheep raiser has only the future to deal with; the old sheep raiser has the past to guide him, and the past is now historic, but not practical.

After sheep shearing it will often be noticed that the lambs are losing life and condition—they will be found on the downward grade. An examination will show that they are tormented by death by ticks. All the ticks of the

## SHEEP AND WOOL.

## Shearings.

The wool clip of Saint Clair County, Mich., will amount to 400,000 pounds.

A good authority states that the wool clip of South Dakota will aggregate 1,500,000 pounds this year.

If the conditions are poor and bad, the flock will soon become suited to parasitic troubles, and "don't you forget it!"

Weaning is a critical period in the life of a lamb, and should always be done with much consideration and judgment.

It is better to have a small flock of the best sheep to start with than a large flock of poorer ones, or a bargain in sheep that are not right in every way.

The French sheep farmers are adopting the hurdle system of handling sheep as practiced by the English, and find it has many advantages over the old pasture method.

The dry, hot, Summer weather is the hardest time on flocks. Dry, hot winds, no shade, no grass, and no water must tell on thrift, health, and condition. Read this again.

The really successful sheep farmer, one who knows what he is doing, understands himself, his farm, and his stock, will always be able to breed a better animal than he can buy.

On no account omit attention to the udders of ewes after the lambs are taken away to be weaned, or the best milkers will have spoiled bags, and be practically ruined for breeding purposes.

There is a kind of sheep that the more a man has of them the worse off he is. It is a pity that a man can't buy a share of sheep sense as easily as he can buy some good sheep.

If you are so made that you have to have a dog on the farm, take pains to have the sheep so well acquainted with it that they will not be scared at the presence of a dog in the yard.

The New Mexico Sheep Breeders' Association organized at Las Vegas recently for the protection against sheep thieves. There were 40 charter members.

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flock go to the lambs as soon as sheared. The sagacious owner will not fail to dip the lambs and thus rid the flock of these miserable little pests.

The scallawag sheep and the scallawag flock owner will stand no show in the coming cyclone that will strike this country when the free traders get in their work. It will be found that good sheep, suited to the wants of the meat and wool markets, meeting the needs of agriculture, and well taken care of, can alone endure the strain and maintain the credit of sheep husbandry in this country.

An exchange voices our sentiments in the following: "Sheep are hardy and able to stand rough weather, and even to partly starve without dying, but they do not yield their best results from such neglect. The experiments in feeding have resulted in a complete change in the wool of certain breeds, and it is a fact that mutton quality and quantity, both considered, is generally improved by systematic feeding."

At Starkville, Miss., while the writer was making an investigation of the sheep industry, an inquiry as to where the A. and M. College people got their mutton, we were referred to a farmer a little out of town. This man was interviewed with some interest. He was doing a good business in furnishing a fairly good article of mutton to the A. and M. College. He liked the home trade, and always sold on orders.

Attend the Farmers' Institutes and take part in all the discussions. Don't be afraid to ask questions, but pitch in; it helps to make things lively. If sheep are not on the program, switch the Institute over onto sheep and lambs and show the management what you want to know; they make mistakes just like other folks. Sheep should be a topic of discussion in every Farmers' Institute, Farmers' Club, Grange and Alliance Organizations and Board of Agriculture.

Stock Grower, Las Vegas, N. M.: "The unsettled feeling over the uncertainty of the wool market has caused the price of wool to drop materially in New Mexico; but good mutton sheep still hold their own, and there seems to be no probability that it will be otherwise for some time to come. It is impossible to foretell what the effect of an extra session of Congress would be on the sheep raisers, because no one can say what will be the outcome of such a session."

It is creditable to the intelligence and enterprise of several Western States and Territories that a scab law has been enacted and rigidly enforced by the appointment of a suitable officer with an efficient corps of deputies. It would be well if every State of the Union had a law, not only requiring treatment of scab, but of ticks, lice foot rot, and all classes of parasites that prey upon the sheep industry. As we see the probable shortening of margins in profits, the increased vigilance will bring better laws on this subject.

It is the practice of many Virginia lamb raisers to put the ram with the ewes as soon as the early lambs are sold. Ewes that are in good condition and vigorous health, with such feed as will flesh them rapidly, will take the ram readily and produce heavy lambs that go to market six to eight weeks old as "seconds." These lambs are always in request and go at good prices. This practice would be hard on the ewes if the lambs were suckled, but a few weeks is not so severe a strain upon the system of the ewe.

The season has been quite exceptional, and farmers have not found time between storms and the push of work to keep run of the flock, and many old and thin sheep have succumbed to the inevitable. For instance, in a ramble over a familiar pasture a few days ago we found a sheep had attempted to pass over some soft ground—a slide from a bank above—and had mired hopelessly in the soft clay. The owners, one was a woman, too, had neglected to count the sheep once a day, and hence knew nothing of the missing sheep. They were not readers of THE AMERICAN FARMER.

## Wild Sheep in the East.

One would hardly believe that there are wild sheep on the Atlantic coast, but such a story comes so well authenticated that little doubt of its truth remains. Thirty years ago a man put a few sheep upon a rocky island at the entrance of Penobscot Bay and let them "shift for themselves," Summer and Winter. They are corralled once a year and sheared. No other attention is paid to them, yet they have increased in numbers to 250 head. In Summer they subsist upon wild grass and other herbage, and in Winter they feed and browse upon sea weeds thrown upon the beach. Although the usage is rough, they are free from the depredations of dogs and wild beasts of prey.

## Good Lambs From North Dakota.

Mr. E. C. Palmer, of Williams County, has pure bred, registered Shropshire sheep, and runs them like common sheep nine months of the year. He has used registered rams of his flock on common range ewes for mutton lambs for the Chicago market. The last three crops at five months old gave an average weight of 69, 70, and 60 pounds, for which he received, respectively, \$5.85, \$5.20, and \$4.35.

## Favors Our Stand.

EDITOR AMERICAN FARMER: I am in receipt of two copies of your valuable paper. I heartily endorse your action petitioning Congress to allow the tariff to remain intact on wool. If there is any industry needing protection it is wool. I will proceed to circulate a petition at once, as I am a wool grower and much interested in the wool industry.—J. W. CHAMBERLAIN, Richardson, N. D.

## TEXAS WOOL GROWERS.

## An Important Meeting of the Association, and a Look Ahead.

At the late annual meeting of the Texas Wool Growers' Association, held in the city of San Antonio, there was reported a good attendance. Much interest was manifested in purposes and measures looking to the protection and extension of the sheep industry as it exists in that State.

Judge Standart, the temporary chairman of the meeting, due to sickness of President L. B. Haynie, "advised the delegates to discuss the all-important questions of the day and put old issues aside. The extermination of coyotes was the all-important subject at the present moment." He said: "The problem of ridding the State of Texas from coyotes should absorb the attention of every sheepman, and the subject should not be dropped until some concerted action was taken to eradicate the pest."

This was the only question discussed. The annual election of officers, and "a committee appointed to confer with cattle-raising associations, with a view to consolidating their interests and working to secure better live-stock legislation," was the whole work of the convention.

The confining of discussions to wolves and pests by the Texas flockmen at this time cannot be accounted for on any other ground than their political predilection.

This is the more astonishing when the character of their mutton industry is considered. It is known that millions of Texas sheep are sent to the Northern and Eastern markets. These cheap sheep find sale at fair prices, considering their character, and can be raised at so small cost that they can compete with anything they meet in the Northern markets.

The supposition has been that protection is as important to the Texas sheep raisers as to the Ohio sheep farmers; that wool growing in Texas would be ruined by free trade as effectually as it would be in Ohio, especially with the grade of wool produced in that State.

Here, then, is a pointer. Not one word of protest against free wool was spoken by anyone at the convention of Texas wool growers, and a full meeting was in attendance from the State. The all-important question was how to rid the ranges of pests that prey upon sheep; that hinder the increase and extension of flocks. Is it true, then, Texas flockmen propose to pin their hopes and expectations of prosperity upon the production of a low class of mutton? The opinion has been growing with us for some years, and the great numbers of sheep that have been unloaded upon the Northern market has confirmed these suspicions. Texas sheepmen do not care anything about protection, which all other intelligent sheep raisers feel is the all-important question to-day that confronts them. To Texas flock owners the tariff is "an old issue," not considerable enough to be discussed even with free wool and woolsens staring them in the face, so near and so certain as to paralyze the sheep, wool, and woolen industry of the country.

All the Texas sheep raiser asks, is get rid of home hindrances—wolves—so he can raise sheep without limitation.

It is safe to conclude that these men have well and carefully considered their chances; that they know what they can do, and that they know what they want, and that they can do it.

They will continue to flood the market with a low class of sheep, as they have long done with a poor class of cattle, and cut the prices for the careful intelligent farmers of the North and East who take the greatest pains to produce high grades of stock.

The Texas stock growers know they can, as they have command of the markets and control, or at least keep down prices by the vastness of numbers, and make better profits than are realized by growers of good animals.

They have accepted such protection as is within their own control and given up the scheme of National protection to those who think it worth while to continue the fight in the halls of Congress. They have taken this stand, no doubt, after deliberate consideration and calculation and quietly placed themselves on record as the most formidable competitors of the sheep raisers of this country. The issue is well taken, and the chances of successful competition are largely in favor of Texas, with its genial climate for breeding animals at a minimum of cost as compared with the great agricultural States of the Union.

Texas has taken the initiative before the free trade storm has come upon the country, when self preservation will oblige the looking about for opportunities to successfully compete for profits in flocks and flock culture. Texas may be regarded as formidable only in cheapness; but again, cheapness governs the whole situation and can compete.

## PROFIT IN THE BUSINESS.

## A Wyoming Sheep Raiser Gives His Yearly Earnings From His Flock.

EDITOR AMERICAN FARMER: I saw in the issue of July 1 an article on "The Wool Growers' Complaint." In this section it is quite different. The sheep industry is the best business there is in the State. Mutton sheep are selling at \$4 per head and dock sheep at \$3 to \$3.50 per head, and in good demand.

I have 3,000 sheep, and care for them in this wise. The camp wagon, which is covered with canvas, carries a bed and is filled with straw; cooking utensils, and provisions enough to last the herder for some time are put in, and the wagon is hauled by a good strong team. This wagon is used by herder, who haul it from place to place, as the sheep demand a new pasturage.

A herder is hired at \$40 per month, and he is supposed to watch the flocks

and keep away dangerous animals. At shearing time he brings the herd around to a railroad station where there are shearing pens. The flock is here sheared, each animal giving from 10 to 12 pounds of fleece, which is sold at 12 cents per pound, giving the value of one animal at from \$1.25 to \$1.50. The cost of shearing is 10 cents per head.

If your sheep are in good condition you are sure of 90 per cent. of the lambs which will be delivered in September. These bring \$2.25 per head. The loss of lambs has not exceeded five per cent. for several years in this section, which is a very small loss. Now, if there is any better business in your section than sheep raising, let me know. You can see what the net profit is in the industry. My wool clip and lambs are worth annually \$8,585, my expenses are \$1,200, and my net profit is \$7,385.—A SHEEPMAN, Lusk, Wyo.

## A Fine Ewe.

EDITOR AMERICAN FARMER: In your paper dated May 15 you ask me to give you a history of the Cotswold sheep which furnished the wool that I sent you. I will give it to you as the owner of the sheep gave it to me. The animal is three years old; it was shorn when it was one year old, but not since. The dam belonged to one Jackson. When she dropped her lambs she had three, and Mr. Jackson gave this one ewe lamb to its present owner, Mr. Johnson. It was raised by hand on cow's milk, and when it was old enough, it was placed in a pasture with hogs, and has been kept there ever since, sleeping and eating with the hogs. It eats corn and drinks milk with them. The pasture which the animal is kept in has a variety of food that agrees with it. She has blue grass and clover to eat whenever she wants it, and also has the small prairie willow and the laurel, or as some call it, the chinquapin oaks and hawthorn brush to browse upon when she wants the bitter part for a ration, which keeps her healthy. Every man who keeps sheep in this part of the country knows and realizes the value of brush for sheep to run in during the winter months and to have the liberty to browse on the same during the daytime, and a comfortable shed to lie down in at night.

This ewe has not been sheared this season, and she is fat and healthy, and the wool is firm. She does not show the least sign of becoming loose and of falling off.

Mr. Johnson says that he cannot afford to spend the time to shear that sheep and then sell the wool at present prices, 14 cents per pound. He thinks that



# A CLEVER ADVENTURER.

**G**OOD EVENING!

The banker, William Murray, raised his eyes from his ledger. He was somewhat surprised, for he did not expect any clients at that hour, at which, as was usual, his office was closing.

The new arrival was a well built, tall, young man, badly dressed. He had entered as the clerk was leaving.

"I was afraid I should be too late," said the visitor, whose voice agreed better with his aristocratic face than did his worn-out clothes.

"Permit me to ask how I can serve you," said Murray, without getting up to receive him. "I beg you to be as quick as you can, Sir Henry, because I want to get away."

"I will tell you at once," replied the young baronet. "I come to ask you for the loan of £200."

Murray eyed the young fellow from head to foot.

"And the guaranty?" he said, shortly.

"My prospects. As you know, I am the presumptive heir of Lord Hervey. I am the nearest of his relations."

Murray laughed sarcastically.

"Sir Henry," he said, "you know very well that you are somewhat inexact. I know from a private source that Lord Hervey has sworn not to give you another penny, and I think you will believe me when I say that I am perfectly well informed."

The face of the young fellow did not change in the least.

"But the reason I have called upon you," he said, "is because you know the friendship which your brother-in-law, who is my grandfather's lawyer, has for me, and I want to show you this letter, which he has written to me."

DEAR SIR HENRY: I have at last the pleasure of sending you a friendly word. Your grandfather, whose health has changed for the worst, desires to see you and bless you before he dies. I advise you to come as quickly as possible. Your old friend, B. JAMESON.

This is really the signature of my brother-in-law," said Murray, after he had read the letter.

"And my best friend," continued Sir Henry. "If he knew the conditions in which I am he would certainly help me."

"Why do you want this assistance from me?"

"Precisely because I want to go to my grandfather, and I require some for the journey."

"Ah, well, I run a risk now and then."

"Excuse me," interrupted Sir Henry; "but I hear some one moving in an adjoining room."

"You must have been mistaken," said the banker, after looking. There is nobody there. Let us return to our business. I can only let you have £100."

"Very well, give me that," said the young man, "and make out your receipt."

The following evening Sir Henry was another man. He had been running about all day engaged in the most varied and agreeable occupation—in paying his debts, in rigging himself out anew.

At 6 o'clock in the evening he received from his grandfather's solicitors the following telegram:

The condition of your grandfather is much worse. He will not alter his will until he sees you. Come immediately.

He hastily packed his portmanteau. A few minutes now would decide his lot, either make him the heir to an estate of £30,000 a year, or leave him as hard up as he ever was, to be reduced some day, perhaps, to beg his bread.

He went into a neighboring hotel, took up a railway table to find out the quickest and shortest route, lit a cigar and then started for home.

"I beg your pardon, but could you oblige me with a light?"



"YOU ARE ARRESTED."

The speaker was a man dressed in dirty, well-worn clothes.

Poverty had rendered the baronet considerate of others. He stopped at once and gave the man what he required.

"A fine evening," observed the latter, continuing to walk along by the side of the baronet.

"Yes," replied Sir Henry. "Good day."

He had reached his lodgings, and was preparing to go in when the man stopped him.

"Wait a moment, sir," said the man, placing his hand upon the baronet's arm.

"Well, what is it?"

"Nothing, except to tell you, Sir

Henry Merton, that you are arrested. I am a police officer, and I am sorry to say you must consider yourself in my custody."

"You arrest me?"

"Yes; for the murder of William Murray yesterday evening in his office."

"But, my dear sir, I am absolutely innocent."

"I hope so, sir; but that does not concern me. You will have the opportunity almost immediately of producing the proof."

"If I cannot see him before his death I shall remain a hopeless vagabond," thought the young man, who had suffered too much poverty not to look upon the prospect with fear.

"Come with me. Let me have an opportunity of speaking with you," said he, as he noticed the passersby were beginning to observe them.

His companion followed him unwillingly to his dingy room, and without waiting for the baronet's invitation seated himself in the only chair which the apartment contained.

"Pray tell me what all this means," said Sir Henry, anxious to know all and wondering whether after all he might not find some means of pursuing his journey.



HE LOOKED OUT OF THE WINDOW.

His companion coolly proceeded: "This morning, when Mr. Murray's clerk arrived at the office, he found his principal shot through the heart, dead, seated in his chair. The police were at once sent for and made inquiry into the affair, I being one of them."

"We learned that last night—the night of the crime—a person had been seen to leave Murray's office at a rather late hour. I caused that person to be watched, and learned that he made several purchases to-day, among others some from Smith & Blake, the tailors, whom he had paid with a bank note indorsed with the name of the banker, Murray, written with his own hand."

"The person who paid them that note and left the murdered man's office at such a late hour was yourself!"

"I will give you now an exact account of how I passed my time and make you a confidant as to my position," said the baronet, and he hastily did so in a few words as possible.

"I indeed pity you, sincerely," said the man, interesting himself in the baronet's position.

"Then, why can't you help me?"

"I don't see how I can."

"Give me three days' grace. At the end of that time I will come and give myself up of my own accord. I swear it. When I am reconciled to my grandfather I shall have nothing more to fear."

"You shake your head! Look," said Sir Henry, entreatingly. "Here is my purse. Take all it contains. I only want sufficient for my journey. The rest belongs to you, and I give you my promise to come and give myself up in three days' time."

"It is very little that I am offering you, but directly I get possession of the inheritance I swear to you that I will not forget to reward you."

"But if I should let myself be over- come by compassion I don't see how I could help you," said the man. "I have no wish to deceive you. At every station there are police officers with your description. If I let you go free you will fall into their clutches, so it will be all the same."

"Yes; but cannot I disguise myself? I will do anything you wish, but I beg of you to let me go."

"But how can you disguise yourself?" continued the detective.

Sir Henry had a lucky thought. Ten minutes after the young baronet, having put on the stranger's corduroy trousers, black coat and cloth cap, had gone forth into the street and leaped into a cab, while his protector, in the new clothes, had taken another direction.

"Luckily, I have another suit in my bag," said the baronet to himself, throwing himself onto the seat and glancing at his costume.

He reached the station in time to get his ticket and to buy an evening paper, so that he might find out the particulars of the strange crime. He had hardly thrown his portmanteau into the carriage when the train started.

"At last," he murmured, settling himself in one of the corners.

But in an instant after he looked out of the window, terrified as though a person who was standing there under the station awning had been a ghost.

This person was William Murray, the murdered banker.

As the train moved off the baronet maintained his gaze through the window, but suddenly he gave himself a shake and took up the paper.

"If he really was killed, I shall soon know!" he exclaimed.

He looked all through the paper, but could not find a word about the crime.

Another piece of news, however, attracted his attention. It was the promise of a reward offered by the police authorities to whoever should give information leading to the capture of an adventurer who had for some time been going around the city committing acts of roguery with the greatest audacity and skillfulness.

He continued his reading: "The adventurer wears a cloth cap, a black jacket, and corduroy trousers."

With feverish haste Sir Henry took from his bag the spare suit of clothes with which he had provided himself, rapidly arrayed himself in them, and as the train passed through the short tunnel before reaching the station he flung the property of the wily swindler out of the window.

Twenty minutes after he had reached his destination his grandfather passed away, and he was the possessor of an estate and income of £30,000 per annum.—Chicago Post.

## NOCTURNAL TRAPPING.

Catching Insects at Night by Means of Lights.

Recently a good deal has been talked about the novel manner of catching insects by means of lights after nightfall. At the Ohio Station a test was recently made to determine the effectiveness of the method.

The question of attracting insects by the aid of lights in order to destroy them is one which is often brought to the front, and on the value of the measure there is a wide difference of opinion.

From the fact that large numbers of insects are caught in this way, the impression has been gained that the measure must necessarily be a good one, and especially is this opinion adopted by those who do not know the relative value of insects, or even understand that some are friends instead of foes. There is, it appears, also another point still more likely to be overlooked, and that is that the majority of even the very injurious species thus caught are males. May 1, 1889, the Entomological Department of the Cornell Agricultural Experiment Station set six lanterns, at considerable distances apart on the University farm for the purpose of determining their value as an insecticide.

Each trap consisted simply of a common lantern set in water, the surface of which had a thin film of kerosene upon it to facilitate the destruction of the insects caught. The lanterns were kept burning every night until Oct. 15, or until no more insects were attracted.

The captured insects were taken from the pans every morning and placed in alcohol, those from each lantern being kept separate. So many outside influences, as other lights, the smallness of the area covered, etc., entered into the case, that practically no results were obtained from the different locations of the lanterns in the number of specimens caught in any of the species thus far studied.

An immense amount of material was taken, representing nearly every order of insects, though the moths included a majority of the specimens. Several species of cut worm moths, the apple-tree tent caterpillar moth and all the May beetles taken in the lanterns have been determined. From July 17 to August 18, 1889, there were captured by the aid of these lamps 601 adults of the tent caterpillar, and of these 513 were males and 88 females. Of the adults of the two species of cut worms, there were captured in the case of one 2,240 males and 142 females, and in the other 22 males and 9 females. Of the May beetles, the parents of the white grub, in 1889, 297 males and 37 females, and in 1892, 230 males and 15 females. This great preponderance of males over females has also been noticed in every other species of the trap lantern material which has been studied, of whatever order.

It indicates that the males are much more active than the females, and is of the greatest importance when considering the insecticidal value of the trap lantern; for undoubtedly many of the males have copulated before being caught, and enough others remain uncaptured to fertilize the remaining females. Therefore the perpetuation of the species is provided for, and the insecticide value of the lantern is rendered too small to be practicable. It will be well to keep in mind the possibility that the ratios between sexes may be similar among the beneficial insects caught, and thus the injury caused by their capture be less than we have heretofore been inclined to believe.

## Going to the World's Fair?

If you are, go via Cincinnati and the C. H. & D. and Monon Route. The superb train service of this line between Cincinnati and Chicago has earned for this line the title of the "World's Fair Route." It is the only line running Pullman Vestibuled trains with dining cars between Cincinnati and Chicago.

The C. H. & D. have issued a handsome panoramic view, five feet long, of Chicago and the World's Fair, showing relative heights of the prominent buildings, etc., which will be sent to any address postpaid, on receipt of 12 cents in stamps. Address, E. O. McCormick, G. P. & T. Agt., "World's Fair Route," 200 West 4th Street, Cincinnati, O. Be sure your tickets read via Cincinnati and the Cincinnati, Hamilton & Dayton R. R.

Our correspondent at Barre, Vt., writes: "The season for honey is nearly over here. The crop is short in this immediate vicinity. The weather has been of the worst kind during basswood bloom. All the bees got they got from clover. In some sections they have done far better. No definite reports as yet."

The Oregon Improvement Company have exhibited at their office at Colfax, that State, six turnips which aggregate 102 pounds weight, the largest weighing 26 pounds two ounces.

## THE APIARY.

### GATHERING HONEY.

The Vermont Method of Removing, Preparing, and Marketing Comb Honey.

EDITOR AMERICAN FARMER: The time has now arrived when those who are fortunate enough to have a crop of honey will need to remove the same from the bees, prepare, and market the same.

At the time I write the Vermont method should be removing the honey; hence I will only say that much depends on removing the white honey immediately upon the cessation of the flow. If left on the hive, the bees will glaze the surface of the cappings with propolis, besides covering the section with a heavy coat.

As soon as the hurry of removing the honey from the hives is over, the clamps should all be sorted. Those with but few completed sections should be worked first, the completed sections removed, carefully cleaned, and sorted; the honey should be extracted from those partly filled, and after being cleaned by the bees they should be placed in clamps and put away.

I do not believe in putting a grade of honey on the market known as "light weight." A large per cent. of this grade is usually made up of those sections not near sealed. Better have the comb honey placed upon the market sealed. Let the unsealed go, as it should, in the extracted class. I firmly believe that three grades of comb honey will cause less trouble than more, and answer all practical purposes just as well. I have made a practice of sorting the honey into three grades just as fast as I clean it. I have never found a better time to judge of the finish and weight of a section of honey than when I have it under examination and in the process of cleaning. Further, if you have your crates ready, as they should be, it is far better to put the honey directly into them. Those who will succeed in the business of honey production must save all labor that can be avoided. Make every move count.

The cleaning of section comb honey is to many a disagreeable part of the work. Some will have the propolis scattered quite thickly over the whole shop, while others will succeed in cleaning their honey and keeping clean themselves. To belong to the latter class one must be very careful and clean up every time he moves from his seat.

The work requires a short, stiff knife, very hard temper, and quite sharp and pointed. That is, I like this kind best of any that I ever tried. The knife must be held firmly in the hand, and the operator must attend strictly to his work, for a slight slip is liable to ruin a nice section of honey, and a few spoiled ones will destroy the day's work. I think it important that the section be thoroughly cleaned. The cleanest work always makes the best appearance.

The crates should also be clean, white wood, and in the bottom a sheet of good, wrapping paper should be placed, having its edges turned up one-half inch. For a market near home I can see no use in having glass on only one side of the crate, and I would have nothing on the sections; but if you must have the sections "done up," I know of nothing superior to "wood sides," made of the same wood and of the same thickness as the section, nicely fastened by a paper hinge. They are a perfect protection to the comb and can be far more easily opened than the paper cartons.

After all is ready we must find a customer—we must find someone who desires to buy our product. Those who can sell their honey near home are indeed fortunate; but whether you sell near home or far away, don't get frightened and worry about over production. One year with another, good comb honey will bring such a price as will pay for its production in most localities. When you succeed in getting a good crop, supply the home market and all others at a fair price wherever you can. Try and furnish a good article and you will have no trouble in selling to the same parties year after year.—H. W. SCOTT.

### System in the Apiary.

EDITOR AMERICAN FARMER: Give a good apiary a good practice with reasonable ability and there is certainly no one thing more conducive to success than system in its management. The word system naturally carries with it the idea of good system—not one, perhaps, good enough in its place, but absolutely unsuited to certain circumstances. Merely reading A, B, C literature is no system. But that perfection of bee management by which every action sinks into and is properly timed by another, where no effort is wasted, where everything is in its proper place and proper order, and all methods are the most beneficial, the most economical and approved, truly deserves to be termed systematic. Such management may be considered as ideal, and may well be sought by many a beekeeper with profit to himself.—J. W. TRFTT.

### Humming.

Comb honey sells better and at a higher price than extracted, and therein lies the advantage of feeding back.

W. Z. Hutchinson says that on an average he has secured two pounds of comb honey from the feeding of three pounds of extracted.

Some beekeepers seem to think that it is better to allow the bees to build comb than have them plaster the woodwork of the sections with comb.

Combs near the center of the super are drawn out quicker and finished sooner than those at the outside and corners. This being so, it is best to place the sections least filled at the center.

## CANADIAN APIARIES.

The Honey Exhibit of the Province at the World's Fair.

EDITOR AMERICAN FARMER: Apiculture is assuming a prominent position among useful industries. Its development within the past two or three decades in countries rich in the flora which yields nectar has been very rapid. This is not surprising, seeing that honey is not merely a luxury, but is rapidly taking its place as a staple article of food. It is the best of the sweets—the most palatable, the most wholesome, and the one most easily digested.

While the exhibit of honey at the World's Fair is fairly good in quality and moderately ample in quantity, it is not what it ought to be compared with the other agricultural and horticultural exhibits. This is due to two or three chief causes: The first is, that last year, unfortunately, was a rather poor honey season throughout the whole country (the United States and Canada), with here and there a local exception. In foreign countries it was much the same. And as the exhibits here thus far, up to July 25, are of last year's crop, their comparatively meager character is thus mostly accounted for. The other leading cause to which this is due is the fact that Governments and Legislatures are slow in according to bee culture the position to which it is entitled among productive industries. Hence their failure in many cases to make the necessary appropriations for apicultural exhibits. This is the cause of several of the States of the Union not being represented in the honey exhibits at Chicago.

The State of New York has the largest exhibit of comb honey at the Fair, while the Province of Ontario, Canada, has by far the largest and, I think, the best exhibit of extracted honey. Ontario's exhibit of comb honey is also, in the opinion of many, the best in quality.

New York also has an exhibit of several colonies of bees busy at work, all of which have been installed and are being managed by Mr. Hershiser. Ohio has a rather fine display of comb and extracted honey, tastefully arranged by Dr. A. B. Mason. Nebraska, Wisconsin, and Minnesota had their exhibits installed among the first. Iowa is installed, and Indiana, Colorado, Michigan, and California are being installed. Illinois is preparing to install. Leaving out Canada, the largest of the foreign home exhibits is that made by the British Beekeepers' Association. Australia, perhaps, comes next. Then there are honey exhibits, more or less, from Greece, Italy, Russia, Brazil, the Argentine Republic, Mexico, Porto Rico, Trinidad, and some other places. These foreign exhibits are principally extracted honey, there being but little comb honey in them. With the exception of a portion of the British exhibit, I was unable to find among them all any equal in quality and appearance to the Canadian honey, and that from a few of the States.

The first judging or examination of the apian exhibits is completed. This season's product will soon be added to that already installed of last season's, and there will be another examination in the Fall, probably September.

The system of examination and awards being adopted by the World's Columbian Exposition is a peculiar one, and has been strenuously opposed by many foreign exhibitors and some American. So far as it is understood at present, it excludes competition among exhibitors—competition as distinguishing between good, better, and best among exhibits. There are changes, however, in prospect which may modify that feature. The apian appliances at the World's Fair may form the subject of my next letter.—ALLEN FRINGLE.

### Why Fail in Beekeeping?

EDITOR AMERICAN FARMER: The question is asked why so many fail in beekeeping that begin apparently right. It is well to say apparently, yet when we look the matter squarely in the face there are many who appear to begin right yet do not.

In beginning beekeeping there are too many who begin under the impression that anyone can keep bees and make money out of them. They get the impression that they require no care and attention, and whatever the bees gather is just so much clear gain. Such beekeepers are no permanent success, and their career is but short-lived. Beekeeping has many attractions for the careful beekeeper. There is in a fair locality more than a living to be obtained, but like every other business, the one most skillful and most painstaking is the one who needs fear competition the least. To enter into the business under the impression that neither care nor attention is required means to send the beekeeper to his destruction. It is an unkind act done through ignorance, or worse, to gain some temporary advantage. I say temporary advantage for the one, he be supply dealer or publisher of a bee journal, who would induce anyone to engage in beekeeping under such an impression is shortsighted and cares not for the permanent and continued success of his business.

So many fail, then, because they are not guarded against the pitfalls ahead of them. A good standard work should be carefully read and then some periodical dealing with the subject, either specially or in a department. Then working along, gaining practical experience, in the quickest way by being forearmed with theory, one may quickly become a fairly skillful beekeeper. Bees do not require much attention with the newly invented self-chiver. They require much less than heretofore, but what attention they require they exact or lose results. I saw or rather heard an amusing story related by a prominent beekeeper to a customer, who thought the honey cost said beekeeper little or nothing. After such a remark from the customer the beekeeper said:

"Oh, no; honey costs us nothing. When the flowers blossom I put out a few thousand bottles, neck up, and the bees come and deposit their load in them. As soon as full I cork the bottles and sell the honey." The absurdity of such a story was manifest, and brought to the attention of the customer very clearly the work entailed before the honey was secured.—R. F. HOLDERMANN, Brantford, Canada.

### A USEFUL INSECT.

The Great Value of a Little Animal Which Furnishes us With Shellac.

We have no doubt wondered what shellac was and where it came from. It is the product of a composite mass that is found on the young twigs and branches of the butes, crotan, and other trees that grow in the countries of the East.

The crude mass from which shellac is obtained is produced by a small insect, *Coccus lacca*, resembling somewhat the cochineal. This insect is hatched, matures, and dies on these twigs. A number of female insects, with a few males, fasten themselves upon the tender twig and puncture the bark. A tenacious fluid exudes and envelops them. The insects feed upon this juice, derive their nourishment from it, and deposit their eggs within it.

The males only have wings, and as soon as the females begin to die a few females and the males go to other trees. After the females that remain in this gelatinous mass have deposited their eggs, and have died, the eggs hatch out the young insects. The young burrow through the dead bodies of their mothers to the surface of the mass and cover the neighboring branches.

The eggs are deposited close to the bark, so that they are protected by their mothers' bodies and by the mass that has exuded and enveloped the female insects. Finally, the young twigs are completely covered with a thick, hard, resinous substance.

When the females die the frames of their bodies form little cells, like those of a honeycomb. As a result of decomposition, there are the elements of a beautiful purple dye. When these twigs have become sufficiently loaded with this resinous mass, the natives of the countries in which these trees grow strip the trees of these twigs and break them into small sticks. These pieces are called stick-lac.

These broken twigs are immersed in hot water, and the hard, resinous substance is kneaded with the hands to press out the purple dye-stuff. After the gelatinous mass has become sufficiently soft it is taken out and dried. It is then put into coarse cloth bags and suspended close to charcoal fires.

Presently the mass begins to melt. By twisting the bags the mass is squeezed out, dropping onto flat sticks placed for that purpose.

As it is dropping from the bags, it hardly strikes the sticks before it is cooled as it is deposited on these sticks, or narrow, flat boards, and dries. These cakes or sheets are called shell-lac.

As the melted mass is dropping from the cloth bags, small drops unavoidably fall to the ground and dry in little, round bodies, called button-lac. Other and larger pieces, that also fall to the ground and dry, are called plate-lac.

The liquid in which the stick-lac, or small pieces of the twigs covered with the crude mass, was soaked is now filled with the results of decomposition and other matters. It is strained and evaporated until the residue is a purple mass. The residue is thoroughly dried and cut into square cakes about two inches square, which are stamped with certain marks, which indicate the quality of the dye. They are then carefully packed for the market.

The purple dye obtained from this source is used to a great extent. The beautiful scarlet shade in soldiers' cloth is produced by the use of this purple dye. The annual consumption of this lac-dye amounts to 1,200,000 pounds. The lac insect is a native of Siam, Assam, Burma, Bengal, and Malabar, and the proportion of males to females is one to 5,000.

The best shellac is that which is most completely freed from impurities, and which approaches nearest to a light orange-brown color. If the coloring matter is not all washed out the resin is often very dark; consequently there are different varieties, such as orange, garnet, and liver.

The juices of the trees are somewhat changed by the insects. So if anyone tells you that shellac is "a resin" he is not correctly informed. Shellac is not the simple juice of the tree, but is the result of the action of the insects upon the juice or resin. Shellac contains several peculiar resins.

In olden times common beeswax was used for sealing envelopes. The wax was mixed with earthly materials to give it consistency. It was difficult to preserve it, however, as even a little heat tended to soften it. Later, gum was used for this purpose, and then came sealing wax, which is made chiefly of shellac. The sealing wax that comes from India is the purest, and is made almost entirely of shellac, vermillion or some other pigment being mixed with it for color. All of the varieties of shellac are translucent, and some of the finer varieties are in sheets as thin as writing paper.

Nectar in flowers is not honey. This nectar is gathered by the tongue of the bee and enters what is called the honey-bag, from which it is regurgitated by the bee on its return to the hive and deposited in the honey cell. Even then it is thin and watery, and does not become really honey until the watery parts have evaporated. In collecting the sweets the bees do not confine themselves wholly to flowers. They extract them also from

## THE GARDEN.

### Pluckings.

The hoe, rake, cultivator, and harrow are great implements for the destruction of weeds. If these are used to stir the soil some good is bound to result.

When shipping potatoes be careful as to how they are packed. Fill the barrels, if such are used, and shake well so that the tubers will lie close together and not be jarred or bruised.

Prevention is always better than a cure, and the weeds in the garden could have been somewhat checked if the stable manure used on them had not been allowed to be a hothouse for the weed seeds.

If commercial fertilizers are used in the garden there is one consolation that there are no weed seeds in them. For this reason alone a good many people use this class of fertilizers.

Ammoniacal carbonate of copper, made by dissolving three ounces of copper and one pound of ammonia carbonate in a half gallon of hot water, is an excellent preventive for celery blight. The mixture is ready for use after adding 50 gallons of water, and should be applied as soon as possible.

### THE CABBAGE PLANT.

Insects Injurious to the Successful Development of the Vegetable.

EDITOR AMERICAN FARMER: Please give me a list of the insects which attack the cabbage and the remedies for them. I have a patch badly eaten up, and do not know exactly what is causing the damage. Your answer may be of great assistance to me.—M. A. P., Ohio.

The imported cabbage worm—This small, green worm is the young of the white butterfly and feeds upon the leaves.

The zebra caterpillar—Is distinguished by the yellow and black markings upon its body.

The cabbage plusia—



Established . . . 1819.

74TH YEAR.

THE AMERICAN FARMER.

"O fortunatos nimium sua est bona norant agricolas."—VIRGIL.

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A GRAND CHANCE.

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Both for \$1.75 a Year.

The great illustrated monthlies have in the past sold for \$4 a year. It was a wonder to printers how The Cosmopolitan, with its yearly 1,536 pages of reading matter by the greatest writers of the world, and its 1,200 illustrations by clever artists, could be furnished for \$3 a year. In January last it put in the most perfect magazine printing plant in the world, and now comes what is really a wonder: We will cut the price of the magazine in half for you! Think of it, 128 pages of reading matter, with over 120 illustrations—a volume that would sell in cloth binding at \$1—for only 12¢ cents. We will send you The Cosmopolitan Magazine, which has the strongest staff of regular contributors of any existing periodical, and THE AMERICAN FARMER both for only \$1.75 a year.

PROF. H. S. WILEY, Chemist of the Agricultural Department, has reported to Secretary Morton that since 1888 there has been \$20,723 expended at the Sugar Experiment Station at Sterling, Kan., and \$40,024 at Medicine Lodge since July 1, 1890. The Secretary is said to be considering how the annual expenditure in this direction can be reduced. In THE AMERICAN FARMER's opinion the question is not the amount of money expended, but the results obtained. If we have made any decided step toward the economical production of sorghum sugar, an expenditure of \$60,747 is a mere bagatelle. We should say: "Go on at once and spend a thousand times as much, if need be." It cost France many millions of francs to learn how to make sugar from beets, but never was money expended more wisely. It has paid back more than seventy thousand fold. If to-day we could know just how to raise all our own sugar economically the knowledge would be cheap at \$100,000,000. We should like to have a statement as to just how much has been gained by the expenditure of \$60,000 or more in Kansas.

SENATOR WEIDMANN says that he will not introduce the Anti-Opioid Bill during the extra session. That has been called by the President for a specific purpose, and no other matters should come before it. The Senator will introduce the bill at an early date in the regular session, and expects that it will pass the Senate with little trouble.

C. A. PILLSBURY, the greatest miller in the world, says that if the farmers will only hold on to their wheat they will realize much better prices for it by-and-by. Just what THE AMERICAN FARMER has been saying.

THE AMERICAN FARMER is only 50 cents a year.

THE INEVITABLE FIGHT.

Congress is now in session, and for the next two weeks—possibly a month—will be absorbed in the fight over the silver question. What the result of this will be cannot be foretold. In all probability, however, it will be a compromise, with strong concessions on both sides. The President's message, calling the extra session, very unfairly laid all the burden of the present hard times upon that thing of compromises and concessions—the so-called Sherman Law. Every fair-minded man knows that this was unjust. The worst that the most radical monetarist can say against the Sherman Law is that it has been inflating the currency to the extent of \$54,000,000 a year for the past three years, and the illogicalness of the "Antis" is shown by their advocacy of an inflation of the currency by allowing the National banks to issue to the amount of the face value of the bonds they have on deposit; of a repeal of the tax on the issues of State banks, etc.

A month ago it looked as if there would be but little opposition—and that not effective—to the unconditional repeal of the Sherman Law. But the advocates of silver have in the meanwhile gotten themselves together in great shape, and now an unconditional repeal seems impossible. The law will be repealed, and ought to be, but there will be many notable concessions before this is accomplished.

We said before that President Cleveland's attempt to lay the whole burden of our troubles on the Sherman Law was unfair. It is clear that the larger part of the stringency is due to fear of injurious tariff legislation. It is this which has taken all the heart out of many of the important industries of the country—notably the wool business. The value of 50,000,000 sheep, supposed to be worth last year \$150,000,000, and of 350,000,000 pounds of wool, supposed to be worth last year over \$100,000,000, has been, if not destroyed, at least put so strongly in doubt as to be of little present account to their owners. Here in this single item are wealth and resources to the amount of all the silver in the Treasury put into a great deal worse condition than the silver of the country. At the worst, the silver will sell readily in the market for 72 cents an ounce or thereabouts, which is a small reduction on the price maintained for a long time; but the wool is scarcely salable at half what it would bring last year. Nobody wants it at any price until it is found out just exactly what Congress is going to do with the duties on it. The Eastern manufacturer does not want it at even less price than he can pay foreign wools, for the excellent reason that he does not know what sale there will be for his goods until he finds out whether the accumulated stocks of foreign manufacturers are to be thrown upon this market without let or hindrance.

The tobacco and very many other businesses are in the same condition of prostration. There are hundreds of millions of dollars worth of agricultural products in the hands of farmers, and those who have bought directly from them, the values of which have been rendered so uncertain as to paralyze all business. Money is tight because men fear to loan it or expend it on property of such doubtful value.

This cause alone is aggravating the hard times more than any other cause or all combined. There will be no resumption of prosperity until men can know for a certainty what their property is worth. This they will not know until Congress makes an authoritative declaration as to what it proposes to do with reference to the duties on agricultural products.

The fight that will begin in Congress immediately after the settlement of the silver question will be upon tariff. In this will lie imminent danger to the farmers' interests, because the whole struggle will be to make as much show as possible toward tariff reform by sacrificing agricultural products to save manufacturing ones. The manufacturers are going to fight hard to save themselves from foreign competition, and they will have powerful help from the labor organizations, representing the hundreds of thousands of operatives thrown out of work by the stoppage of the factories. The influences brought to bear upon Congress to save the factories will be enormous, and they will all be more or less inimical to the farmer, because they will selfishly strive to save themselves by sacrificing him.

This is the situation to which the farm-

ers must wake at once. Too long have they listened complacently to rhetoric on the greatness of husbandry and the virtues of farmers by men who fed them this flattery while maneuvering for substantial advantages for other interests.

Let a halt be called in this windy eloquence and real work in the interests of farmers be substituted. We can get along without compliments if we have real work done in our behalf. The farmers themselves must be as keenly alive to their interests and to the wrongfulness of legislation which menaces those interests as the manufacturers and the labor unions are. They must be no less determined in insisting upon an equal measure of protection. The farmers' wool, hay, tobacco, eggs, fruit, barley, rice, etc., are of just as much consequence to him, just as much deserving of Governmental protection, as the miners' silver, the workman's labor, and the manufacturer's goods. The other classes combine to fight for their classes' interests, and the farmers must solidify themselves into a class for the same purpose. The other classes fight selfishly and persistently—the farmers must do the same.

It is for this purpose that THE AMERICAN FARMER is established in Washington. It is here to watch the maneuvers of those who would sacrifice the farmers' interests to their own, and to frustrate them whenever it can. The farmers have suffered much from the lack of such a representative organ at the National Capital. They need a faithful, vigilant, incorruptible champion of their rights constantly on guard, and such THE AMERICAN FARMER is. They should all take it during the coming year, as one of the best ways in which to aid in the great fight it is making in their interest, for the more subscribers it has the more effectively it can do battle for them. Let every man who believes in protecting the farmers to the same extent that other Americans are protected take the paper himself and see that his neighbors do the same. Nothing will do more to help the cause of the farmers than to give a liberal support to their champion at the seat of Government.

CONTAGIOUS FOOT ROT.

We have received several inquiries as to the treatment of contagious foot rot in sheep. When a flock is found to be affected, each animal should be caught and the feet carefully examined. Where the toes have grown to an undue length, they should be trimmed down to their proper size and shape. The person doing this should be furnished with a pair of sharp toe nippers and two sharp knives, the latter to pare away portions of the hoof that may be overgrown and curled under. All horn that is separated from the foot by disease should be removed, and the exposed part cleansed with warm water, after which it should be dressed with caustic or astringent agents.

There are a number of substances which are used in the treatment of this disease, the most popular being bluestone (sulphate of copper) mixed with an equal portion of lard. Finely-powdered bluestone may also be applied to the ulcers with good effect. Others use butter of antimony, and still others the diluted mineral acids. Our advice would be to rely upon the sulphate of copper. Twenty-four hours after this agent is applied, if the ulcer is still foul and has a disagreeable discharge from it, a second application should be made. After this, the treatment consists in keeping the feet as clean as possible, and in the daily application of some antiseptic liquid, which may be a solution of sulphate of copper dissolved in 12 times its weight of water. When a large number of sheep are affected, this latter treatment may be performed by driving the whole flock through a wooden trough which is filled to the depth of three or four inches with the medicinal liquid. Sometimes benefit is obtained by driving the flock through such a trough which is partly filled with freshly slacked lime.

The careful examination of every animal and the paring of the feet is essential to success. When the disease is first noticed, the well sheep should be separated from the diseased ones, their feet should be treated with a weak sulphate of copper solution, and then they should be placed upon ground where no affected sheep have been. If this portion of the flock is carefully watched, and animals removed as soon as they show lameness, a considerable portion of the flock may be prevented from taking the disease.

WHAT WE BELIEVE.

THE AMERICAN FARMER firmly believes that we should trust on our soil everything that our people need and which our climate and soil are capable of producing.

We believe that to pay out money for these to foreign producers is an economic wrong; that it sends abroad money which should be kept at home; that it gives employment and profits to foreigners which our own people should enjoy, and that it leads to the impoverishment of the country.

We believe that it is the high duty of the Government to encourage our own agricultural producers by every means possible by shutting out foreign competition in every article which comes into injurious rivalry with those raised on our own soil.

Particularly we believe that every pound of wool, tobacco, hay, rice, cotton, butter, cheese, hops and sugar, every bushel of barley, and ever dozen of eggs needed in this country should be raised by American farmers on American soil, and the purchase money for them be paid in American dollars to American citizens, and we are inflexibly opposed to any changes in our tariff laws which will admit competing foreign products on more favorable terms. We are, on the contrary, in favor of still more stringent laws to more certainly shut these out.

We propose to fight for this belief with all the energy we possess, and we invite all those who believe that our farmers should be making more money, instead of less than now, to rally around our standard.

We are in the fight for protection to American farmers to stay, and we shall never cease from our advocacy of this principle as long as a dollar goes abroad for farm products which should be spent at home.

Let the advocates of oleomargarine say what they will, no one will eat the stuff when they can get genuine butter. This has been proved in Connecticut, where a law similar to that in Massachusetts has been passed, forbidding the selling of oleomargarine, or any other substitute, for butter; in the color, form, or name of natural yellow butter.

Wherever dealers were compelled to put up the sign "Oleomargarine sold here" they gave up the business entirely. Their customers did not want oleomargarine, and didn't want to take any chances of its being palmed off on them.

GREATER independence in stock breeding is observable in this country now than formerly. Persistent attempts were made to reproduce types of animals that were imported from across the seas and from remote sections of this country. Thousands and thousands of dollars were annually paid for males to keep up the ever varying types—the standards of other regions. By slow degrees it was learned that nature and natural laws combatted skill and imported standards, and then it was discovered that individual farms should have individual types. This was an advance.

THE French are much wiser than we in many things. They have never allowed the railroads to purchase of other-wise break down competing canals, but these are kept up to their best capacity and constantly improved. More than \$300,000,000 has been spent by the Government since the beginning of the present century in enlarging and improving the canals and rivers, and about two-thirds of this amount has been spent by the present Republic.

STILL no appointment of an Assistant Secretary of Agriculture. It seems conceded that the appointment ought to go to the South, but in the opinion of the President and Secretary the right man is tardy in showing up.

PERSONAL.

Mr. Wm. George Hill, the Chief of the Division of Records and Editing of the Agricultural Department, has been ill for several days, but his prompt recovery is expected.

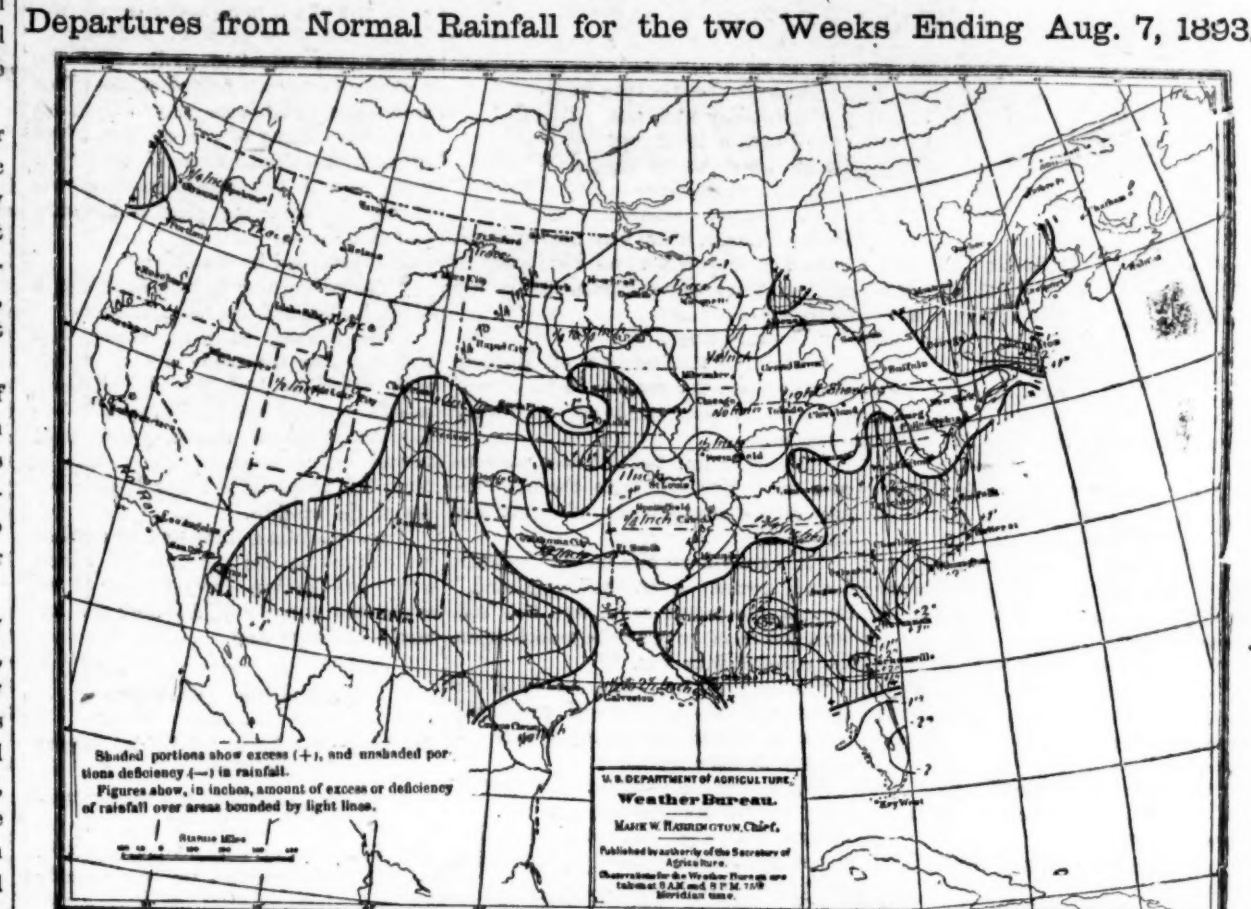
J. W. Miller, Warrenton, Va., sowed a head of oats and raised a quart of grain; he sowed the quart and raised 20 bushels; and finally sowed the 20 bushels and thrashed out 1,000 bushels.

Mr. Fred C Smith, the leading horticultural agitator of South Australia, is in the United States as a representative of the South Australian Government, to make a six weeks' examination of the fruit industry. He is very highly elated with what he has seen so far, and writes glowing letters to his home people.

The Brockville (Ontario) Recorder speaks very complimentary of the appointment of Mrs. E. M. Jones, of that place, as one of the jurors on butter for the Dairy Exhibit at the World's Fair. The number of jurors allotted to Canada was small, while there were many persons whose dairy knowledge entitled them to consideration in making the choice. This makes Mrs. Jones's selection the

U. S. DEPARTMENT OF AGRICULTURE WEATHER BUREAU.

Departures from Normal Rainfall for the two Weeks Ending Aug. 7, 1893.



TEMPERATURE.

During the two weeks ending Aug. 7, 1893, it was warmer than usual over the Lake Region, Central Valley, and from Minnesota westward to Idaho. The daily average excess of temperature was generally 2° or less over the greater portion of the region named, the exceptions being the Lower Ohio Valley, where it amounted to 3°, and in Montana and the western portion of the Dakotas, where the excess ranged from 3° to 5°. It was also slightly warmer than usual over the interior of central California. In the States bordering on the Atlantic and Western Gulf Coasts normal temperature prevailed; while it was cooler than usual over the southwestern portion of the country, including Oklahoma, southern Colorado, New Mexico, and Arizona, where the deficiency in temperature ranged from 2° to 5°, being greatest in southern New Mexico, and adjacent parts of Texas.

RAINFALL.

The rainfall for the period named exceeded the average in northern New York and northern New England, and generally throughout the South Atlantic and Gulf States. There was also more than the usual amount of rain over western Texas, New Mexico, Arizona, southern Colorado, and portions of Nebraska, Iowa, Missouri, and eastern Kansas. Heavy rains occurred from southern Virginia southward over the Carolina, and also in northern Florida and southern Alabama, where the actual fall at many stations for the two weeks ranged from three to six inches, being heaviest on the North Carolina coast. The most noteworthy feature of the rainfall of this period is the comparatively large amount that has fallen over the western portion of Texas, New Mexico, and Arizona, where from 100° to 300° more than the average fall occurred. Much less than the average amount of rain has fallen over the northern, central, and western portions of the country, including the principal corn-producing States, where drought conditions are prevailing to a greater or less extent. Little or no rain has fallen over portions of northern Illinois, and practically none has fallen in some portions of Michigan, northern Wisconsin, and central Minnesota.

SPECIAL TELEGRAPHIC REPORTS.

New England.—Rainfall excessive in all sections except Maine, but did much damage to corn in many places on the 7th; the rain will be of great benefit; apples and pears still continue to fall from trees.

New York.—Hot and dry; much complaint of drought; late corn and wheat are in poor condition; much damage to crops in some sections; much damage to crops in some sections; much damage to crops in some sections.

Illinois.—Heavy rains in southern section have greatly improved all crops; in peach growing districts where outlook has been so promising, the present indications are that much damage to crops soon the yield will be deficient in size and quantity; great deficiency of rainfall in central and northwestern sections; crops are seriously affected and shortened.

Indiana.—Heavy rains in southern section have greatly improved all crops; in peach growing districts where outlook has been so promising, the present indications are that much damage to crops soon the yield will be deficient in size and quantity; great deficiency of rainfall in central and northwestern sections; crops are seriously affected and shortened.

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# EXPORT HAY TRADE.

## A Review of Prices and Conditions in the New York Market.

BY BYRON ANDREWS.

NEW YORK, Aug. 13, 1893.

The scarcity of forage in Europe and consequent revival of hay exports has attracted great attention throughout the country.

The unusual activity in this line of commerce has led to a movement in New York City for the establishment of a system of grading and inspection similar to that adopted in the handling of track grain and flour at this market.

The hay trade in this city has been conducted in rather a desultory manner in the past, which gave rise to unsatisfactory friction between buyer and seller without a remedy for an authoritative adjustment of differences. Hay received here was often more or less damaged, of a different grade than what was expected by the consignee, and not infrequently short weight.

As most of the transactions made between the parties whose only knowledge of each other was through correspondence, the difficulties attending upon dealing in the product has been a source of increasing annoyance, and would naturally grow no less in case of an enlarged volume of business should the expectation of large exports be realized.

Some years ago a hay exchange was organized in this city, but owing to differences between local dealers it did not thrive. Recently, the subject being agitated again, the appointment of a committee by the New York Produce Exchange led to a consultation with members of the local trade, and led to the adoption of the following system of grades at a meeting held on the 9th of this month.

The following are the grades which are important to farmers for a proper understanding in the future of quotations of prices in the published market reports from this city:

Prime timothy hay shall be pure timothy properly cured, bright natural color, sound and well baled.

No. 1 hay shall be timothy, not more than one-quarter (1) mixed with other tame grasses properly cured, bright color, sweet, sound, and well baled.

No. 2 hay shall include all timothy not good enough for No. 1, proportionally mixed with other tame grasses, sweet, sound, and well baled.

No. 3 hay shall include all hay not good enough for other grades not over one-third (1) clover, but may be natural meadow free from wild or bog, sweet, sound, and well baled.

Clover mixed hay shall include all hay containing not over two-thirds (2) clover and one-third (1) timothy properly cured, sweet, sound, and well baled.

Clover hay shall be medium grown, properly cured, good color, sweet, sound, and well baled.

No grade or rejected hay shall include all hay badly cured, musty, stained, or in any way unsound.

No. 1 rye straw shall be clean, bright, long rye straw pressed in bundles, sound, and well baled.

No. 2 rye straw shall be clean, long, rye straw, sound, well and securely baled.

Out straw shall be clean, bright out straw, sound, well and securely baled.

In order to carry out the object of the new movement, Mr. J. Y. Roberts has been appointed inspector.

The method to be adopted for inspection is an improvement on that in vogue in Chicago. At the latter place the inspection is made on the cars; here it is to be done after the hay is unloaded, when it is not only to be examined as to quality, but also weighed. A certificate of the grade and weight of each lot will be issued in duplicate, one for the consignee and one for the consignor. A fee will be charged of \$1 per car for inspection on car lots, and 10 cents per ton on lots arriving otherwise. The charge for weighing will be 20 cents per ton. These charges are divided between buyer and seller.

This will insure the consignor absolute protection from loss through error in either grading or weighing after reaching the market, and also protect the consignor from embarrassment from the receipt of hay which falls short of the expectation of the consignor.

This being the chief point of export in the United States, your correspondent has taken pains to gather particular information relative to the conditions of trade and ruling prices. As remarked to-day by one of the leading commission men in this city who has been connected with the trade for 28 years, the recent flurry concerning export is a repetition of an effort which has been made periodically during this period to inaugurate a commerce with Europe in forage products. Heretofore these efforts have not resulted to any lasting advantage, nor has the export trade reached large proportions, in fact; we have usually imported a great deal more than we sent abroad. Within the last two months, however, in response to European demands, the amount shipped has been increased very largely. There are indications, however, that the prices have reached a climax and that the monthly shipments will not continue to increase, owing to causes which will be explained below.

The fact is that the Canadians seem likely to furnish the bulk of what will be needed in Europe from this side of the water from this time forward, owing to the law which permits exports to be made from lower Canada through New York City, without the payment of duty by shipment in bond. There is a four dollar duty on Canadian hay, but a very large drop is reported from the Province of Ontario, and dealers in Toronto and other points in Canada are offering it to New York commission men in great quantities at from \$2 to \$3 less per ton than farmers of the United States are willing to take. As the commission men either buy the Canadian product in bond for export or simply receive it as for-

warding agents, the duty upon it is evaded, and the farmers of Ontario enjoy the advantage of our facilities in free competition with our own producers.

Another reason for the opinion that prices based on export demand have reached a climax is well expressed in a letter received to-day by a member of a New York Produce Exchange from his London correspondent, who says: "The drought in the early summer in England has been followed by abundant rains, which promise a considerable crop from second growth. Again, hay has begun to come forward in large quantities from Russia, and is selling at a price equivalent to \$23 to \$26 per ton. This hay sells more readily than the American, because in quality and kind it is similar to the native English meadow hay. Taking into account ocean freights and landing charges, American hay at \$16 to \$17 per ton in New York market can be handled with profit in this market."

Another gentleman engaged in the trade had information from London that liberal consignments of hay from the Argentine Republic are on the way to the English market.

Inquiry as to freight rates elicited the fact that the charges for carrying baled hay across the Atlantic are about \$10 per ton of 2,240 pounds, with an additional prime of five per cent.

It must be remembered in this connection that the prices quoted in London are for the long ton, 2,400 pounds more than the American ton.

It is admitted, however, that the demand from continental Europe will be unusually large, so that in spite of exorbitant freights a considerable export may be expected from the United States, unless our farmers hold their crops at so high a price that the Canadian will get possession of the market.

A New York dealer told your correspondent to-day that he would advise the farmers of this country to sell their crops as rapidly as possible, and not take the chance of being forestalled completely by Russians, Argentines, and Canadians. He thought the present price was as good as will be realized, and in addition with this the producer would save the loss from shrinkage in weight, which is considerable upon hay kept for some months.

There is a great difference in character of hay required for different foreign markets. The French will take nothing but clear timothy unmixed with any other grasses, while the English buy timothy and clover mixed.

There is considerable export business from this point also for the West Indies, where hay of various grades are sent.

In former times all the southeast coast of the United States, from Washington to New Orleans and Galveston, was supplied by sea from this market. New York has lost the great bulk of this trade, however, which is now supplied from Chicago and St. Louis, and to some extent from timothy grown on the uplands of Alabama.

The hay required for local consumption in this market is of various grades, but chiefly of pure timothy and the better grades of mixed timothy and clover. Native wild hay is not in demand.

Prices here at this time range from \$21 to \$22 per ton for fancy down to \$16 to \$17 for lower and intermediate grades.

The business is conducted by a system of consignment by country dealers to commission men, who advance the freight and charge \$1 per ton additional for handling and insurance. There about 150 dealers in New York, of whom 35 are in the commission business, who receive consignments from the country and sell to the local trade or to exporters.

It costs at present railroad freight rates from the Middle States to this city about \$3.50 per ton or \$4.50, adding commission for charges to this point. This added to the ocean rate brings up the total of charges from the interior to London to about \$17 for a long ton, although the hay is actually sold to the exporter at this point, and the interior dealer or producer has nothing to do with the subsequent charges, the effect upon the price is the same, the exporter must take everything into account in comparison with price paid in the market to which he is shipping.

The fact is that the New York City consumer is paying rather more for his hay to-day than it will bring in London, taking into account the charge for ocean freight.

It is always unsafe to make predictions, but the conclusion drawn at this time from a consensus of opinion of those engaged in the trade and the chief export market in the country, is to the effect that the best time for farmers to sell so much of their hay crop as they expect to dispose of will be as soon as it is gathered and fit to bale.

### Government Publications.

The Treasury Department of the United States, through Hon. S. G. Brock, Chief of the Bureau of Statistics, is sending out both "Wool and Manufactures of Wool," by Col. Switzer, the former Statistician to the United States Treasury, and "The Wool Book," compiled for the National Association of Wool Manufacturers, by S. N. D. North, Secretary.

The wool book is "a manual of authentic wool statistics" in convenient form of 122 pages, that can be carried in the pocket. It gives the number of sheep and their value; the number of pounds of wool produced and its value from every country of the world, and for a great number of years, together with a vast deal of accurate information that is not found anywhere else in one book.

Bulletin readers should apply for these Government aids at once, and carefully inform themselves on the wool question both of this country and of the whole world. Address Hon. S. G. Brock, Chief Bureau of Statistics, Treasury Department, Washington, D. C.

### Do You Have Asthma?

If you do, you will be glad to hear that the Kola plant, found on the Congo river, West Africa, is reported a positive cure for the disease. The Kola Importing Co., 1164 Broadway, New York, have such faith in this new discovery, that they are sending out free by mail, large trial cases of Kola Compound to all sufferers from Asthma, who send their name and address on a postal card. Write to them.

## FARMERS IN CONGRESS.

### Tillers of the Soil Who Will Serve in the Fifty Third Body

Michigan has four farmer Representatives. James S. Gorman, of the Second District, was born on a farm in Washtenaw County, Mich., Dec. 28, 1850, upon which he now resides. He became a lawyer and was actively engaged in the practice of his business when on account of the ill health of his father he retired to his farm, where he has since been engaged as a practical, everyday farmer. He was elected on the Democratic ticket, receiving 22,097 votes to his principal opponent's 21,443. His district comprises Jackson, Lenawee, Monroe, Washtenaw, and a part of Wayne Counties.

George F. Richardson, of the Fifth District, composed of the Counties of Ionia, Kent, and Ottawa, is the son of a pioneer farmer, and received a common school education. He was born in Jamestown, Mich., July 1, 1850, and held several minor offices. He was elected on the Democratic and Populist ticket, receiving 20,095 votes to his principal opponent's 20,085, who was a Republican, and 1,890 for the Prohibitionist candidate.

John W. Moon, of the Ninth District, was born in Wayne County, Mich., Jan. 18, 1836. He says that until 19 years of age he worked on his father's farm, attending school during the winter. He removed to the northern part of the State in 1854 and connected himself with the lumber business, which he has been following ever since. His district is formed of Benzie, Leelanau, Manistowish, Manitowish, Muskegon, Newaygo, Oceana, and Wexford Counties, and he was elected on the Republican ticket. He received 13,969 votes to the Democratic candidate's 13,653; Prohibitionists, 1,673, and "Free" 1,000.

Thomas A. E. Weadock, of the Tenth District, is the son of an Irish farmer, and left the farm to take up the printing business. He was born in Ireland Jan. 1, 1850. He is a Democrat and received 14,558 votes. His district is formed of Benzie, Leelanau, Manistowish, Manitowish, Muskegon, Newaygo, Oceana, and Wexford Counties.

MINNESOTA.

William D. Washburn, United States Senator, was reared on a farm and worked there until he was 20 years of age. He was born in Livermore, Me., Jan. 14, 1831. He entered college, graduated, took up the study of law, and was admitted to practice in 1857. He was appointed Secretary of the Minnesota State Fair in 1861, and has since that time been ever since resident in that State, making Minneapolis his home. He was a Representative in the 46th, 47th, and 48th Congresses, and was elected to the Senate in 1891, his term of service will not expire until March 3, 1895.

James A. Tawney, of the First District, was the son of a farmer and a blacksmith, and learned the trade of the latter, at which he worked for many years. He was born near Gettysburg, Pa., Jan. 3, 1855, and finally became a lawyer. He was elected as a Republican, receiving 18,141 votes, against 15,000 for his adversary, who was a Democrat. His district is composed of 10 Counties, and he is a member of the Seventh District, which is composed of 16 Counties, was born in Norway, and in company with two young brothers emigrated to Minnesota in 1868, settling in Otter Tail County in 1871.

In his biography he says that he settled on his 320-acre farm of 320 acres in the township of Aurdal in 1872, and during the next six years worked on this farm in summer and taught school in winter. "May 19, 1884, I assisted in organizing the Otter Tail County Farmers' Alliance and was made its Secretary, which position I held for seven years, resigning after having been elected the eighth time. During the years 1886-'87 I was Corresponding Secretary for the Minnesota State Farmers' Alliance, and in 1888-'89 was its Vice-President, being each time elected without a dissenting vote. In 1889, in a meeting of the Executive Committee of the State Alliance, I offered a resolution requesting the Legislature, then in session, to provide for the holding of a State Fair, to be held on the territory at Stillwater, which was adopted, and, as a committee, was appointed to lay the proposition before the Legislature and the Governor, in which I secured the adoption of the plan by the State. He was elected as a Republican, receiving 18,141 votes, against 15,000 for the Democratic, and 2,586 for the Prohibitionist.

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Uriel Schreef Hall, who represents the Second District, composed of Carroll, Carlton, Grundy, Linn, Livingston, Monroe, Kandiyohi, and Sullivan Counties, was born on a farm in Randolph County, Mo., April 12, 1852. He received a good education, became a lawyer, but gave up his profession to engage in farming. In his biography he says that he was State Lecturer of the Alliance, and after the last time received 15,545 votes to his Republican adversary's 13,151. His district is composed of Bates, Cass, Cedar, Dea, Henry, Johnson, and St. Charles Counties.

David A. McDermott, of the Sixth District, was born in Blair County, Pa., March 18, 1844, and was brought up on a farm. He is a Democrat, and was elected to the 53d Congress, the 54th Congress, and received 15,545 votes to his Republican adversary's 13,151. His district is composed of Bates, Cass, Cedar, Dea, Henry, Johnson, and St. Charles Counties.

George W. Hulick, who represents the Sixth District, composed of Brown, Clermont, Clinton, Greene, Highland, and Warren Counties, was born in Randolph County, Mo., April 12, 1852. He received a good education, became a lawyer, but gave up his profession to engage in farming. In his biography he says that he was State Lecturer of the Alliance, and after the last time received 15,545 votes to his Republican adversary's 13,151. His district is composed of Bates, Cass, Cedar, Dea, Henry, Johnson, and St. Charles Counties.

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more, Gage, Hamilton, Jefferson, Polk, Saline, Saunders, Seward, Thayer, and York.

William A. McKelvey, of the Fifth District, composed of Irish parents in Cumberland County, N. J., Jan. 19, 1842, and moved with the family to Illinois, where they settled on a farm. He enlisted in the 11th Ill. Cav., and after the war settled on a farm near Pontiac, Ill. He was quite prominent in organizing farmer associations in the State. He was elected to the 53d Congress on the Alliance and Democratic tickets, and last Fall went through as an independent, receiving 17,490 votes, against 14,230 for the Republican candidate. His district is composed of 18 Counties.

Onmer Madison Kirt, of the Sixth District, an Indian by birth, being born Nov. 13, 1855, in Wayne County. He was brought up on a farm and received a good education. He removed to Carter County, Neb., in 1882, and took a law course and resided there until 1890, when he was appointed Deputy Treasurer of the County. He was elected to the 53d and 54th Congresses as a Populist-Independent, receiving 15,328 votes, against 12,197 for the Republican candidate. His district comprises 35 Counties.

NEW JERSEY.

Henry C. Landwehr, who represents the First District, composed of Camden, Cape May, Cumberland, Gloucester, and Salem Counties, was born in New Jersey in 1852. He was reared on a farm, and after receiving a rudimentary education emigrated to the produce business in Philadelphia, where he remained for over 10 years. He was elected as a Republican, receiving 25,099 votes to his Democratic opponent's 22,511.

John T. Dunn, of the Eighth District, has a career which reads like that of a novel. In his biography he says that he was born in 1838, and has resided in New Jersey since he was seven years of age. "Owing to the death of my mother when I was four years old, my father, having a large family of children, placed me with a farmer, who agreed to give me three months schooling each year until I was 16 years old. The farmer neglected his part of the contract, and at 11 years of age I did not even know the alphabet, and by the help of the men in the shop mastered reading, writing, and arithmetic, and by employing my evenings and holidays and Sundays I acquired all the education I possess." He became a lawyer and held several prominent positions in his town, and in 1888-'89 was its Vice-President, being each time elected without a dissenting vote. In 1889, in a meeting of the Executive Committee of the State Alliance, I offered a resolution requesting the Legislature, then in session, to provide for the holding of a State Fair, to be held on the territory at Stillwater, which was adopted, and, as a committee, was appointed to lay the proposition before the Legislature and the Governor, in which I secured the adoption of the plan by the State. He was elected as a Republican, receiving 18,141 votes, against 15,000 for the Democratic, and 2,586 for the Prohibitionist.

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worked on a farm and attended the district school until he was 18 years of age, when he divided his time between working on a farm and teaching country school until after he had arrived at manhood. He attended school at the Iowa State Agricultural College at Ames and took up law. He removed to Oregon in 1883, and was elected as a Republican on a vote of 15,659, against 12,190 for his Democratic opponent.

JOHNS DICKS, of Altoona, who represents the Twentieth District, composed of Blair, Bedford, Cambria, and Somerset Counties, was born in Pennsylvania in August, 1844. In early life he assisted to the support of his father, who was a blacksmith, by working around the furnace of his section. In 1868 he started in farming for himself and continued at it for four years, and then took up the study of law. As a Republican he received 22,601 votes, against 17,420 for the Democratic candidate.

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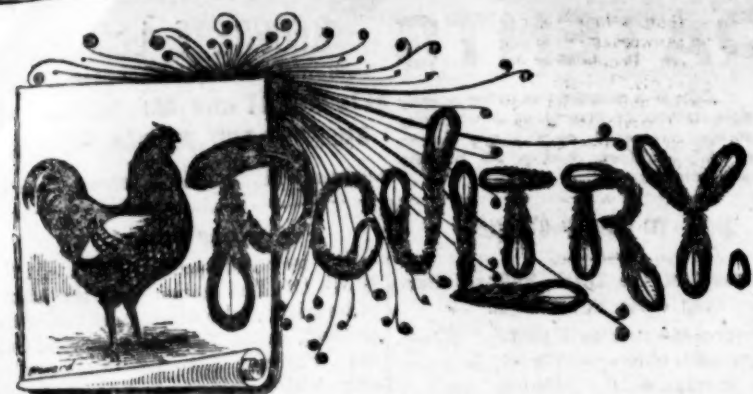
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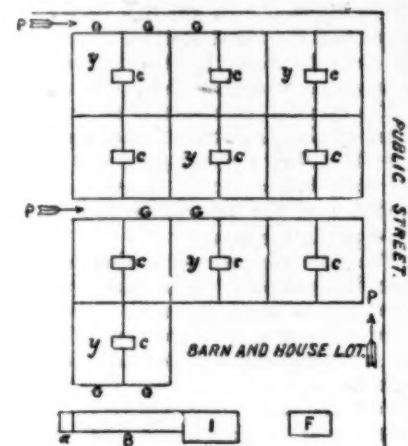




## A POULTRY FARM.

## A Description of the Fixings of a Farm of Practical Poultrymen.

EDITOR AMERICAN FARMER: Our farm comprises 10 acres, and lays in town just at the edge of the city limits, so that we are within a mile of postoffice and banks. I enclose you a rough sketch of houses and yards, so that you may see their convenience. C, C, C, are chicken houses; Y, Y, Y, are yards, and G, G, G, gates for entering same; P, P, P, are passage ways, wide enough to drive through; A, is stove and cook house; B, is the brooder house; I, incubator house, and F, is the feed house for storing grain.



The chicken houses (C) are 7 x 14 feet, with a partition through the center, and each half holds 10 hens and a cock, and each flock has a yard to itself. Each half house has a window on the south side and six nest boxes on the low or north side. Roof slopes but one way. Each house has a door on east end. The floors are of coarse, dry sand. Each half house has a low roof with boards to catch the droppings, all of which can be taken out and cleaned. The droppings boards are cleaned every morning, and strict cleanliness observed on ground and in nests, so that we have never been troubled with lice. The windows on south side are at such a height as to cause sun to shine in nest boxes in winter and on the ground and sand under the boxes in summer, so that it takes an extra cold in winter for our eggs to chill if the sun is shining.

Each house has two yards—a yard for each flock, and each yard is 46 x 69 feet, and inclosed by a six-foot wire poultry fence, thus keeping each flock separate. The yards are large enough so that 11 fowls always have green stuff. They never wear off the grass in summer. The run was built the odd size of 46 x 69 feet to fit the ground, and 40 x 80 would give about the same size. Thus we have room for 200 hens and 20 cocks, and most of the time they keep our incubators going, giving us nearly 700 eggs a week in the Spring and Summer, but less in winter.

Our incubator house is built very solid, with eight inches of sawdust all around the walls and roof, thus making it frost proof and giving a very even temperature. It is 16 x 24 feet, and contains eight incubators, five of them holding 300 eggs each and three 200 eggs, making a capacity of 2,100 eggs, or 700 every week.

Our brooder house is two stories high and 12 x 100 feet on each floor, with a three-foot passage way running along the north side. Each floor is divided into 20 pens 5 x 9 feet, thus making 40 pens each, holding from 40 to 100 chicks, according to size, giving the house a capacity of about 3,000 chicks. Pens on the upper floor are for the younger hatches, and have no outside runs, as they do not need to be out when small. The pens on the lower floor have outside runs 5 x 10 feet each, and the large chicks can run out on days that will permit. They are driven through from pen to pen as they grow larger, and do not have to be handled. There is one window for each pen.

The brooders are of the hot-water-pipe system, and give both top and bottom heat, so the chicks do not crowd. They run the whole length of the building, and are easily cleaned out every morning from the passage way. I have, however, used a home-made incubator with equally as good results, which I will tell you of farther on.

A is a stove house on east end of brooder house. It contains the two Brahma-Deane heaters for the brooders and a furnace for cooking feed. I will say that these hot-water heaters are very economical in the consumption of fuel. F is the feed house, and contains simply bins for the storage of grain and other feed; also a Webster and Ham-clover cutter. The latter is hardly ever used, as we store second-growth cabbage, which lasts us till late in the winter for green stuff.

Our best hatch has been 91 per cent. of fertile eggs, but I will state also that all hatches have run nearly up to that average. These incubators keep a very even temperature, running between 102 and 104 degrees, and the best hatches are secured at this temperature if you take the eggs out of machine to turn them, but if you keep incubator closed all the time and turn with a patent apparatus 102 degrees is about right.

We are right with the old hen on hatching, and we might also say on raising, though we only raise about half the chicks hatched, but I think this is as well as the hens would do if you had 300 of them to look after, each hen having 10 young ones.

A very small per cent. of chickens raised to market age will pay expenses, and all over that is clear profit; or, on the other side, all under this per cent. would be clear loss. Right here let me say, do not expect to raise too large a per cent. My experience is they are easier hatched than raised. So do not count them before they are hatched, and if you do not want to be disappointed, do not count them till they are sold and you have the money for them. In regard to prices, we sell altogether in the Chicago market, and sell alive. They bring about as follows, and prices are surer than the raising of the chicks: In March they must weigh one pound apiece, and bring \$5 per dozen; in April and May one and one-half pounds each, and sell as high as \$7; in June, two pounds each, and sell at about \$4.50; in July, two and one-half pounds each, and sell at \$3. We do not sell later than July, for we hatch in winter and early spring. Raise garden truck in summer.

We do not use a home-made brooder, but when I was 14 years old I made a hot water incubator after the *Poultry Keeper's* plans. It holds 100 eggs, and to this day will hatch with the old hens, often giving 90 per cent. or above of fertile eggs. They are cheap and easily made, but require a little more attention than the lamp incubator with self regulator, and they are so bulky they move about like a heavy stone. Of course, mine is very rough in appearance, for I am no carpenter, but it gets there just the same.

We keep a team of all-purpose horses for farming, hauling our coal and sand and gravel, and they do enough outside work besides to pay for their feed. They are indispensable.—CARMAN & GRIFFIN, Charleston, Ill.

## White-Crested Bearded White Polish

The first importations of Polish came from Holland to England, and were mostly black and white, not having beards, and with topknots that were smaller than those of to-day. The white-crested bearded white Polish, though of uniform, white plumage throughout, have the same erect and strutting carriage which characterizes all the varieties of the Polish class. The color makes them attractive, and in appearance as neat and aristocratic as any fowls ever placed on exhibition. They attract attention wherever shown, and are favorites with the ladies. Their plumage is as pure and white as snow, which necessitates great care and attention to preserve its beauty. They must be kept perfectly dry and clean, as their beauty



WHITE-CRESTED BEARDED WHITE POLISH.

depends upon the delicacy of their plumage and the cleanliness of their appearance. Attention must be given to the preservation of their beard and crest, and they should be provided with a covered water fountain. To those persons who desire to keep fowls, and only have a limited space for them, this breed is especially adapted. They will make fine pets under proper treatment, and will in a short time become the admiration of the entire household. They lay well under favorable conditions, but are non-sitters. The chicks require almost constant attention and care; the dryness of the coop being the greatest necessity for their welfare. If it is your purpose to keep pets, no fowl is better suited for that purpose than this breed, but the success of the breeder or fancier depends largely upon the attention he exerts to provide for their wants.

## Incubator Regulator Wanted.

EDITOR AMERICAN FARMER: Will some reader of your valuable publication either describe how to make a metal regulator for an incubator, through your columns, or send me the address of a dealer who sells them.—J. M. DAILEY, Morgan Avenue, Holmead Manor, Washington, D. C.

## INCUBATORS AND BROODERS.

## Experience of Those Who Have Raised Chickens by Artificial Means.

The latter part of last month we sent a circular letter to several poultry raisers, asking them their experience in raising poultry by artificial means, the best hatch it secured, at what temperature, how many chicks were successfully raised, and the average price secured for them. Below we give the answers received:

J. A. Criswell, Blue Island, Ill., says his best hatch was 80 per cent., with the temperature between 100 and 105 degrees. He managed to raise on an average of 70 per cent. of the hatch, which he sold at three months old at \$1.20 per pair, the weight of the chickens averaging three and one-half pounds.

Mrs. J. P. Williams, box 458, Pueblo, Colo., says the best hatch she ever had was 84 chicks out of 100 eggs. Thirteen of the eggs were not fertile, and three chicks died after they had pipped. She has never had less than a 75 per cent. hatch of fertile eggs. She keeps the temperature between 102 and 103 degrees, not over the latter. Out of the 84 chicks hatched she raised 79, which were sold within three months of age at 60 cents each. She tried one home-made incubator and another manufactured one, but has secured her best results with the Incubator. She bought one of 200-egg capacity in early February, and up to June 10 she had 764 chicks. She thinks there is less waste with a brooder in taking care of 150 chicks than with the old hen.

Mrs. J. H. Burton, Hillsdale, Ill., is of the opinion that a fertile egg will hatch as quickly in an incubator as under a hen. The best temperature is between 100 and 105 degrees, care being taken not to let the eggs chill when turning. She has her incubator of 300-egg capacity, in a cellar, with window lights, and the temperature is easily controlled. Chicks hatched in an incubator and raised in a brooder almost all live. There are no lice on them and no hen to trample them. The brooders are tight, so no cats or other enemies can get to them. The hens are healthy. Sitting weakens them more than laying all summer, and there are so many eggs to sell with no sitting hens and no dragging young young chicks in wet dew and rain.

M. J. H., whose name and post-office address are not known, writes: "My best hatch was 72 per cent. I secured my hatch at 103 degrees. I never had success with home-made hatches. I use a Boughten Brooder. While the chicks are right little I take them from that, as their nature call for it, to a home-made brooder, of which I have six. Out of the best hatch I could not tell how many I raised, for I had as many hatched under hens and they were mixed up. As for selling them, I sell none but the crows, unless I get more than I want for laying purposes. The price of broilers is here quite low."

"I will endeavor to give a description of my home-made brooder. I took it from a farm pamphlet, given for making an incubator. I tried the incubator; it would not work; it was not made perfect. My brooders are 27 inches long, 25 inches wide, 13 inches deep, with 8 x 10 glass in the sides and one end; the front end has two narrow glasses. The door, four and a half inches wide, with grooved pieces on each side for it to slide in. The sides are made the same as sash and then nailed together. The sash at



WHITE-CRESTED BEARDED WHITE POLISH.

the ends must be turned up to allow the top sheet iron to come up at the corners to allow the warmth to come up. The bottom sash must not be but two inches wide. The space that the glass occupies on the inside is one inch thick and two inches wide. Nail the top sheet iron on and turn it up at the corners, as I said before, slip a piece of sheet iron across the ends where it is turned up and nail these with small nails. Now for the bottom, next to the lamp or gas, whichever it may be. Put on another sheet iron as large as the brooder, or if one inch bigger it won't hurt. Be sure your iron has no holes in it for the bottom next to lamp, as the fumes will kill the chicks; put a board lid on and it is done. I have my brooders set on level ground, with a place dug out nearly as large as the brooder, and opposite the door of the brooders is a place dug and boxed up to put the lamp under the brooder in middle; the lamp is two inches from the bottom of brooder and no nearer."

## What It Has Done for the Old Gent.

Have kept and sold Hires' Rootbeer several years. I have drunk it exclusively this summer. Am 75 years old and feel like a boy. It is ahead of sarsaparilla. H. VAN WAGENEN, M. D., Dartington, Wis.

## THE MARKETS.

## Review of the Fortnight.

## TONE OF THE WOOL MARKET.

Justice, Bateman & Co.'s circular says: "A few of the woolen mills which have orders for goods are running full time; many are running on short time, and a large number have shut down altogether. The demand for wool machinery is a dull wool market. The present depression in manufacturing circles is more severe than any that has preceded it for a generation. There is no panic, but the mills are being closed to escape a loss that cannot be avoided if the proposed program of tariff revision is carried out. The New York Post, which is very close to the Administration, in speaking of the subject says: 'It is not a mere possibility of tariff revision that confronts us; it is a certainty. If this means ruin, then ruin will come as surely as the sun will rise to-morrow.' Statements of this nature from sources apparently well informed lead to the conviction that tariff revision of some sort will be adopted. A restoration of some sort would undoubtedly result from an official announcement that no tariff reductions would be made. Money is abundant, but, owing to the prevailing alarm, it is withheld from circulation. Neither banks nor trust companies are making loans to any extent, and the business community is reluctant to such a degree as to have damaged the usual processes of exchange between different localities. In manufacturing circles there is no difference of opinion as to the cause of the present trouble; nor is there any doubt as to the need of a radical change in the tariff again in motion. The business community do not fail to observe the strong contrast between the condition of business to-day and that of one year ago, when this country was the only prosperous Nation in the world. The cause of the present depression is attributed to the system of protection added to the universal tariff. If the Sherman Silver Law (which many believe is the paramount factor that is causing the decline in wool) is repealed, it will then be seen that the cause for the present depression is deeper, for other staples, such as cotton, for instance, not menaced by tariff changes remain steady, while the menace of free wool has caused Merino grades to fall from 60c secured on the 1st of March to 40c to-day, because the free wool on London values only 30c secured. If the Sherman Law is responsible for the tumble in prices the removal of the cause should restore them to the old figures. Nothing can prevent a fall in the American prices to the free wool level except the removal of the proposed changes in the duties upon wool and woolsens, to which the Administration has been so publicly committed."

Clapp & Co.'s circular says, with regard to wheat: "Baltimore reported receiving more new wheat since July 1 than the same time last year. The Spring wheat movement in the Northwest for the year ending July 1 was the largest on record, and nearly double what it was two years ago, when our largest crop was grown. Their visible supply has decreased but a little this season. Exports have exceeded those of any similar time on record, and have been about 24,000,000 bushels to date. A report says the world's visible has decreased about 1,000,000 bushels last week, and is now about 154,423,000 bushels. Since July 1, 1891, and ocean freight rates have advanced, and are now about 18 cents per bushel from Chicago to Liverpool. Liverpool merchants send willing buyers at 75 cents per bushel, delivered to them. European crop reports, as far as our latest prices are concerned, are not very encouraging. American advances, make crop conditions appear no worse, and perhaps a trifle better, than a month ago. Exports since July 1 have been about 50 per cent. larger than same time last season. Primary receipts have been 50 per cent. less. The price is about 25 per cent. less. Many estimate country reserves of old wheat are light, because farmers were in great need of funds to pay maturing and harvest bills. They also claim millers of old wheat are not so plentiful as they were for daily grinding needs; that millers, jobbers, and retailers have all and each been living on the hand-to-mouth plan, and have made no provision for the coming few months; that when they realize their position the price of old wheat will advance, and the price of new wheat; that when the flour market shows firmness and advancing tendency it will be a leading indication and a pointer to wheat on with expectation of a large profit; that Great Britain bought more wheat and flour than any other country last year, and will expect to eat least 150,000,000 or 175,000,000 bushels leave our shores during the year ending next July, and that it will be impossible for us to spare that much; that the growing crop will not exceed 400,000,000 bushels, and lastly, that it will be but a short time before the apparent excessive carrying charges will disappear. That Fall seedling will be the least in many years, as the ground is too dry and price too low."

"Our Chicago advices indicate that bankers there have no loans on wheat and provisions; that Board of Trade men own both without borrowing funds, and that the better moneyed element in the trade believe in 90 cents or more for December wheat. The Government report made condition of Spring wheat 67.0, against 74.1 July 1 and 57.3 a year ago, indicating a crop of about 100,000,000 bushels Spring wheat, against about 120,000,000 bushels a year ago."

## Wool.

"The demand for wool continues quiet and sales are made in most cases in small lots. There has been a pretty fair attendance of buyers, and they have been looking over the market over pretty thoroughly, and when bargains have been offered they have been ready purchasers. Much of the millers are shut down or are talking of shutting down in the market buying wool, and the wool is in the credit is first-class, they are able to buy wool on very favorable terms. There is not the slightest change to report in prices."

"The market for Ohio and Pennsylvania fine washed fleeces is very firm, but the demand is extremely quiet. The sale of the No. 1 and above is scarce, and the lowest inside price would be 25c per pound. The price is about the same for No. 2 and above. A small sale of X and X above was made at 25c, the first sale that has been made for some time. The No. 1 and above is scarce, and the lowest inside price would be 25c per pound. The price is about the same for No. 2 and above. A small sale of X and X above was made at 25c, the first sale that has been made for some time."

"Washed containing oil and grease and no other impurities are quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"There has been a fair request for Territory wool, and the market is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for California wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Oregon wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Idaho wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Montana wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Wyoming wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Utah wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Arizona wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for New Mexico wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

"The market for Texas wools has been very quiet. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above. The market for X and X above is quiet and steady. The supply offering is not large, but is ample for all requirements. Holders are asking 24c for X, and 25c for X above."

The demand for pulled wools is even quieter than reported last week, and prices are on a very easy basis.

Ohio and Pennsylvania fleeces—No. 1 fleece, 25c; No. 2 and X and above, 22c; XX and XXX fleeces, 20c; Michigan X, 20c; New York, New Hampshire, and Vermont X, 20; New York and New Hampshire No. 1, 24c.

Combings—Kentucky and Maine 1 blood, 12c; Kentucky and Maine 2 blood, 10c; Kentucky and Maine 3 blood, 8c; Kentucky and Maine 4 blood, 6c; Kentucky and Maine 5 blood, 4c; Kentucky and Maine 6 blood, 2c; Kentucky and Maine 7 blood, 1c; Kentucky and Maine 8 blood, 1c; Kentucky and Maine 9 blood, 1c; Kentucky and Maine 10 blood, 1c; Kentucky and Maine 11 blood, 1c; Kentucky and Maine 12 blood, 1c; Kentucky and Maine 13 blood, 1c; Kentucky and Maine 14 blood, 1c; Kentucky and Maine 15 blood, 1c; Kentucky and Maine 16 blood, 1c; Kentucky and Maine 17 blood, 1c; Kentucky and Maine 18 blood, 1c; Kentucky and Maine 19 blood, 1c; Kentucky and Maine 20 blood, 1c; Kentucky and Maine 21 blood, 1c; Kentucky and Maine 22 blood, 1c; Kentucky and Maine 23 blood, 1c; Kentucky and Maine 24 blood, 1c; Kentucky and Maine 25 blood, 1c; Kentucky and Maine 26 blood, 1c; Kentucky and Maine 27 blood, 1c; Kentucky and Maine 28 blood, 1c; Kentucky and Maine 29 blood, 1c; Kentucky and Maine 30 blood, 1c; Kentucky and Maine 31 blood, 1c; 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Kentucky and Maine 334 blood, 1c; Kentucky and Maine 335 blood, 1c; Kentucky and Maine 336 blood, 1c; Kentucky and Maine 337 blood, 1c; Kentucky and Maine 338 blood, 1c; Kentucky and Maine 339 blood, 1c; Kentucky and Maine 340 blood, 1c; Kentucky and Maine 341 blood, 1c; Kentucky and Maine 342 blood, 1c; Kentucky and Maine 343 blood, 1c; Kentucky and Maine 344 blood, 1c; Kentucky and Maine 3



THE FENCE CORNER.

He Could Wait.  
Ragged Robert—Please, mum, if you could let me have an old suit of your husband's—  
Mrs. Suburb—He has only one old suit, and I was just thinking about mending that.  
Ragged Robert—I'm in no hurry, mum. I kin wait till it's mended—Puck.



The Exact Facts.  
Lawyer—You think, then, that your assailant attacked you with malice premeditated?  
Client—I dunno, sah; he might 'er had one o' dem kind o' mallets, but de principal thing he used waz a razzor, sah!—Puck.

Rustic Endeavor.  
"What are you trying to raise here?" asked the traveler.  
And the farmer looked up from his work just long enough to reply:  
"A mortgage!"—Washington Star.

A Work of Time.  
Mr. McSwat—Have you packed your trunk yet, Lobelia?  
Mrs. McSwat—Not yet.  
Mr. McSwat (looking at his watch)—Then you haven't any time to lose. The train leaves in exactly 36 hours.—Chicago Tribune.



An Out-Late View.  
Brown—That's my new house, sure, but (hic) I didn't notice it was so awfully crooked (hic). It's not safe.—Judge.  
Why She Wanted the Horse to Win.  
"I do hope Whip's new horse will win the race next week."  
"Have you risked any money on him?"  
Ethel—No, but I've had a lovely new white suit made, and he said it would be a cold day when his horse got left.—Inter Ocean.



Needed It.  
Polite Tramp—Madam, may I inquire what variety of fowl this is?  
Lady of the House—That is Plymouth Rock.  
Polite Tramp—Er—I thought so. Have you a stone-cruiser on the premises?—Philadelphia Times.  
Educated for It.  
Upon—You were a witness to-day, I hear, Uncle Dan? how did you stand the cross-examination?  
Uncle Dan—Oh, pretty fair; pretty fair; 'twas rather cross at times, but ma hain't had me in trainin' fer nigh onter 60 years for nothin'!—Judge.

A Pleasant Prospect.  
"They say," said Spriggins, "that it takes three generations to make a gentleman."  
"That," replied Wiggins, "opens up a pleasant prospect for your grandson."—Life.



"Lod! I doan see no pullet."  
Philadelphia Times.  
Freddie—Ma, didn't the missionary say that the savages didn't wear any clothes?  
Mother—Yes, my boy.  
"Then why did pa put a button in the missionary box?"—Life.

THE BUTTER TEST.

The Competition Among the Guernseys, Durhams, and Jerseys.  
World's Fair, Jersey, Aug. 12, 1893.  
On the south end of the grounds are the three cattle barns built for the test cattle. Twenty-five Guernseys, Jerseys, and Durhams were entered and have been closely watched and carefully tended for many weeks. We all know how the cheese test came out, and in a few more days we shall hear from the butter test, although it is practically settled, and the Jersey men smile complacently and say, "What did we tell you?"

One feels upon entering these little sheds, where you dare not step without a special permit and all that, that you are in a very famous company. In the Guernsey stable we see No. 15, owned by N. H. Fairbanks, a little creature that has produced two pounds of butter daily since May 1. There stands No. 25, owned by John M. Eddy, of Saratoga Springs; she made the best individual cheese test. Nos. 3, 5, 11, and 24 are all owned by Shaw, of Massachusetts, also Francis, lying very quietly at the farther end, so tame that the boys sometimes ride him to water. Although ex-Vice-President Morton has lost most of his herd in that big fire, he has some beauties here. Nos. 7, 12, and 23 all belong to him. He also owned Rosa Bella, who died here a few weeks ago.

Crossing over to the Jersey barn we immediately ask to be shown Lily Flag, owned by Gen. Moore, of Alabama. This cow, although she is not in the test, has a butter record of 1,047 pounds in one year. She is a typical Jersey, perhaps a little larger than the average, and is possessed of an enormous appetite. As a rule, the great producers are great consumers, but even in this small herd we find an exception or two. All of the Jersey men I have heard express an opinion on the matter, say that individual temperament has much to do with that question. No. 7, standing directly across the barn, is a very small eater and a great producer. I was fortunate enough to be present at the noon milking of the Jerseys, and saw then how carefully each cow is credited with the amount of milk she gives. One member of the committee is present at each feeding and milking. By-the-by, the Jerseys have all of their food steamed and cooled for them. Mr. Fuller says he considers that it is then partly digested, and in that way just so much animal energy is saved.

Passing on into the Shorthorn division we are pleased to note the gradations of types of this breed. It is a manufactured breed, and two near together show us what the breed was a few years ago. They had longer horns and legs, more loosely jointed, and with coarse coats. Farther down the line stood samples of the ideal type of to-day—a little shorter of limb, with sleek coats, round and more beef to be seen. I was with a Shorthorn breeder and he expressed to me as his opinion that for the sake of style, the breeders of this stock had made a great mistake in trying to get rid of the light roan and spotted cattle, and to displace them with the dark red. In his opinion, the latter have not the "staying" ability of the former. He was also frank enough to add that one of the great faults of the breed was its inability to hold out in the pail. Nora, owned at Osage, Iowa, is probably the best in this barn, and is fifth best in the Columbian test. No. 21 gives the most milk of any; it is from Kansas.

Too much stress cannot be laid upon the importance of this test. Its benefits will be great to dairymen all over the world. Throughout there seems to be a decided desire for justice to all, and a good-natured rivalry pervades. It is an object lesson to everyone to see what business methods may accomplish in a matter of this kind. The cows are studied individually and treated accordingly. Everything is done for their comfort and health, and if nothing else is proven it will be settled beyond a doubt that this care and thought pays. Screens are put in at all doors and windows, they are kept well bedded and perfectly clean; if the weather changes suddenly, their food is changed. If they are changed from hay to grass, medicine is administered in common sense methods.

On the whole, much in this test speaks of the advance in this work and of the sterling qualities of the men who have had it entrusted to their charge.

Following are the totals of the three herds for the first half of the 90-day butter test for milk, fat, butter, and solids other than fat:

Name of State or Country.	Population.	Number of cows.	Area in square miles.	No. of Population per square mile.	Population per cow.
Norfolk State	1,058,010	500,288	76,186	6.9	13.8
New England States	8,082,020	400,000	62,000	12.9	8.9
New York State	6,997,893	3,500,000	47,000	14.9	7.3
Ohio State	5,073,216	2,500,000	40,000	12.7	8.4
Wisconsin State	1,568,080	700,000	23,000	66.9	2.4
Iowa State	1,911,898	1,000,000	36,000	53.1	3.6
Kansas State	826,251	1,700,000	33,000	51.5	3.4
Illinois State	2,467,000	1,200,000	57,000	43.3	2.8
United States of America	62,622,250	16,000,000	3,600,000	17.4	3.6
Kingdom of Great Britain	35,546,000	4,000,000	93,000	382.0	0.9
France	37,073,048	4,000,000	204,000	181.4	2.0
Germany	65,540,000	4,000,000	381,000	172.0	1.6
Russia	75,084,027	1,000,000	2,125,000	35.3	0.6
Austria	22,180,705	1,000,000	115,000	192.9	4.8
Belgium	7,082,174	1,000,000	11,200	626.0	1.6
Italy	32,500,000	1,000,000	297,000	109.4	2.8
Spain	25,360,000	1,000,000	192,000	132.3	2.9
Sweden	4,447,388	800,000	45,000	18.1	4.5
Norway	1,900,000	400,000	120,000	15.8	4.4
Denmark	1,700,000	400,000	28,000	60.7	6.6
Holland	2,900,000	400,000	16,000	181.3	4.5
Belgium	6,400,000	1,000,000	11,200	88.4	4.0
Switzerland	4,000,000	1,000,000	15,000	66.7	5.3
Portugal	7,631,165	1,000,000	64,511	117.5	8.1
Canada	4,224,018	200,000	9,084,000	0.7	0.8
Australia	2,773,641	80,000	2,800,000	0.1	4.6

A Table Showing the Relative Magnitude of the Dairy Industry in Several States of the Union and of the United States and of Foreign Countries.

THE ORCHARD.

Delaware and Maryland expect a good yield of peaches this season. The crop is placed at \$500,000 baskets.  
The young trees set out this Spring are not the only ones which require attention. The old ones should be looked after as well.

The locality may have a great deal to do in successful fruit-growing, but in the majority of failures it is not due to this but to the grower himself.

A good plan of excluding the borer or grub from the peach tree is to bank the earth around the tree base a foot or more high. It is said to be quite effective.

It seems as though the prune growers on the Pacific Coast are having quite a time in finding a market. The crop this year in France is excellent, which has some effect on the growers.

Budded apple trees will live as long as root grafted ones, if the stocks upon which they are worked are as hardy as the variety of bud used, and so nearly allied in kind as to form a perfect union.

Mr. Hale, the peach specialist, says that he would prosecute anyone who spread stale manure among his trees. They don't want nitrogen. It forces a late growth of wood that cannot resist severe winters.

Experiments conducted under the auspices of the Delaware Experiment Station, with a view of discovering a remedy for peach rot, have made plain that a principal source of infection exists in the decayed fruit that is left on the trees after harvest.

A New York quince grower, says an exchange, who has been much troubled by borers among his bushes, claims to have stopped them by washing the trees with two gallons of water in which was one gallon of soft soap, and when the buds were boiling he added one gill of carbolic acid. This he applied with a rag in May, and renewed whenever washed off by rains.

The Secretary of Agriculture is in receipt of a communication from the Society of Fruit Culture, of Russia, announcing an International Exhibition of Fruit Culture, to be held under the auspices of the society at St. Petersburg in the Autumn of 1894. Its object is to be to show "the present condition in Russia and other countries of the cultivation of fruits and vegetables, of viniculture, the cultivation of medicinal plants, horticulture, and of the manufacture of their products."

ORCHARD CULTURE.

The Planting, Cultivating, and Pruning of Fruit Trees in the Far West.

Mr. John T. Blackburn, the President of the Washington State Board of Horticulture, appeared before the recent meeting of fruit growers at Spokane and read a paper on the cultivation and care of orchards. He informed his audience that for nearly 20 years he lived on the prairies of Illinois, and part of that time grew some corn. "My theory was, when at all practicable, to cultivate the corn before it was planted, as I believed that was the very best time; or in other words to thoroughly prepare the ground before planting. Now, if this theory and practice is right and good for corn, why should it not be good for fruit trees? The selection of a proper site for an orchard may not be applicable to all, for the simple reason that some unfortunate persons have purchased small tracts of land and none of it suited for an orchard. Of course, such tracts are exceptions to the rule. There are other tracts that could be made suitable for orchard purposes by the proper system of underdrainage. I have in mind now several orchards that for lack of this very important agent are almost worthless.

"I visited an orchard last month, and in conversation with its owner, who said he did not see what could be wrong about his orchard, the soil being good, deep, and rich, had received a liberal amount of cultivation, but the leaves had not the color they should have; they did not make the growth they should in such soil, and even the fruit was far below the standard and lacked in flavor. The simple reason for all this trouble was the ground needed underdrainage. It had a natural drainage for its surface water, but where the roots of the trees were the soil was soured by stagnant water, and although the trees appeared to be doing the very best they could under the circumstances, it was impossible for them to do what their owner expected. I remarked to the gentleman that if he would go to the expense of thoroughly underdraining his orchard, there was no reason that I could see why all these difficulties should not and would be overcome. We should avoid a cold, wet soil for an orchard, and never plant on a thin soil. What I mean by a thin soil is when the hard pan or cement is too near the top. After we have selected a proper site and before we begin planting, care should be taken that the ground be put in good condition, remembering that it is not only much easier to plow and work the ground before the trees are planted, but they will soon make up for the delay which may have occurred on account of thoroughly working the ground before planting, if even one season is missed by the operation. When it is possible, Summer fallow before planting.

My experience and observation in western Washington go to prove that it makes very little difference whether we plant in the Spring or Fall. For years I strongly favored early Fall planting, but now, if I had an orchard to plant, and my ground was ready, I should plant, whether it were Fall or Spring, and should rest assured that the trees would do well. After we have thus planted an orchard we will have the

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